



This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

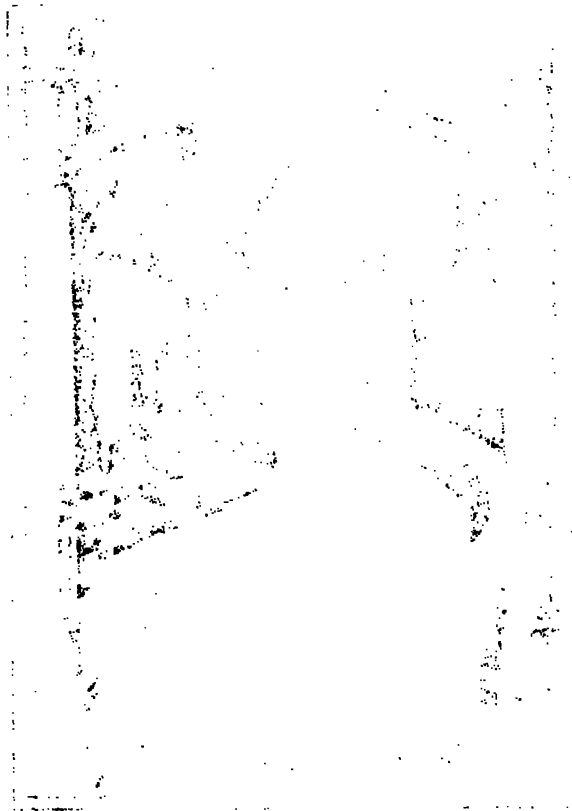
- + *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.
- + *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.
- + *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.
- + *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at <http://books.google.com/>

THE BOOK OF SUN-DIALS





*Bequest of Alice Meyer Buck, 1882-1979
Stanford University Libraries*

1



Nicholas Kratzer
from the Portrait by Holbein in the Louvre.

THE BOOK OF SUNDIALS

BY
J. H. P. [illegible]
[illegible]
[illegible]
[illegible]



LONDON: DODGE, BELL AND SONS

MDCCC



W. Butler, Knight
Portrait painted by William Verelsteden

154

THE BOOK OF SUN-DIALS

ORIGINALLY COMPILED BY THE LATE

MRS. ALFRED GATTY

NOW ENLARGED AND RE-EDITED BY

H. K. F. EDEN AND ELEANOR LLOYD



LONDON: GEORGE BELL AND SONS

MDCCC

- *Original edition published 1872.*
Second edition, revised, 1889.
Third edition, enlarged, 1890.
Fourth edition, re-arranged and enlarged, 1900.

CHISWICK PRESS : CHARLES WHITTINGHAM AND CO.
TOOKS COURT, CHANCERY LANE, LONDON.

[ORIGINAL DEDICATION]

TO THE DEAR HUSBAND,
TO WHOM I AM INDEBTED FOR THE BEST HAPPINESS OF
THE HOURS OF EARTHLY LIFE,
AND WITH WHOM I HOPE TO SHARE THE EXISTENCE
IN WHICH
TIME SHALL BE NO MORE,
I DEDICATE THIS VOLUME,
IN THE COMPILATION OF WHICH HE HAS TAKEN SO GREAT
A PART AND INTEREST.

M. G.

PREFACE

THE original edition of this Book of Sun-dials was written by my Mother, Mrs. Alfred Gatty. It was published in 1872, only a year before her death; but she had begun the work many years previously, whilst she was still unmarried, and living with her father, the Rev. Alexander J. Scott, D.D., Vicar of Catterick.

During the last few years of her life she was unable to travel much, owing to illness, but the number of her dials continued to increase, thanks to the kindness of friends, who sent additions to her unique collection from different parts of the world.

In Mrs. Gatty's Preface she specially mentioned one dear friend, "without whom it is probable that the work would never have appeared—Miss Eleanor Lloyd. To her the reader is indebted for by far the greater number of the continental mottoes, and for much of the pleasant notices which accompany them, as well as for general, unwearied enthusiasm in her researches. Being an artist too, she has adopted the habit which we ourselves had pursued for so many years, and made sketches of all the dials she saw, both at home and abroad."

These introductory details will explain a further quotation from Mrs. Gatty's words:

"The present collection of dials, with their mottoes, was begun about the year 1835. Perhaps the presence of a curious old dial over our church porch (Catterick), with something like a punning motto, *Fugit hora, ora*, may have had somewhat to do with originating the idea. Also at the home of some dear friends, a few miles off, the porch of their picturesque little church (Wycliffe) on the banks of the Tees, bore another inscription, *Man fleeth as a shadow*. A third motto surmounted an archway in a stable-yard (Kiplin), *Mors de die accelerat*. A fourth was over the door of a cottage in a village (Brompton-on-Swale), bearing the warning words, *Vestigia nulla retrorsum*, which shone out in gold and colour amidst evergreens. Here lived the venerable sister of a canon of Lincoln, which may perhaps account for the presence of the dial. A fifth looked out from the depths of pyracanthus on a house

at Middleton-Tyas, hinting to callers not to waste the precious hour, with its *Maneo nemini*; while last, and not least in our esteem, stood the touching inscription, *Eheu, fugaces!* on a pillar dial outside the drawing-room at Sedbury Hall, Yorkshire, where it betokened the scholarly character of the hospitable owner. These six mottoes (all, somewhat remarkably, in one neighbourhood) made an admirable beginning of a list which soon swelled to twenty or thirty pages by taking a wide circuit, and with the assistance of the contributions of friends. And thus the matter went on from more to more; but the great impulse was given when the friend alluded to in the preface, undertook to collect in the south of France and Italy, a fair field indeed and one even yet imperfectly explored. As to these dial mottoes, there are perhaps as many differences of opinion, as there are differences of character, in those who read them. We, who have studied them for so many years, feel with Charles Lamb, that they are often "more touching than tombstones," while to other people they seem flat, stale, and unprofitable. One correspondent describes them as a 'compendium of all the lazy, hazy, sunshiny thoughts of men past, present, and *in posse*,' and says, 'the burden of all their songs is a play upon sunshine and shadow.' But this is no fair description; the poet's words:

'Liberal applications lie
In art as nature,'

have never been more fully realized than in the teachings which have arisen from dials, as we trust the following pages will prove beyond a doubt. So far from the burden of all their songs being a play upon sunshine and shadow, one of the most fertile subjects of thought is the sun's power, as being his own timekeeper, which he certainly is, whilst the mottoes constantly assert the fact.

"The sun describes his own progress on the dial-plate as clearly as he paints pictures on the photographer's glass—human art assisting in both cases. *Solis et artis opus*, says the dial in a street at Grasse, near Cannes—somewhat baldly, perhaps. More refined is the *Non sine lumine* of Leadenhall Street; and perhaps higher still the *Non nisi coelesti radio*, of Haydon Bridge. *Non rego, nisi regar* is the modest avowal of another dial in a street at Uppingham, acknowledging itself to be but an instrument governed by an overruling power. And these are but a few of the many 'applications' the poet speaks of."

After my mother's death (1873) Miss Eleanor Lloyd and I continued to collect notes on dials, with the result that in 1889 we published a second edition of the book nearly twice as large as the first. This was followed, in 1890, by a reprint, to which new mottoes and other

matter were added ; but as these had to take the form of *Addenda* the arrangement was not satisfactory, and we are glad now to be able to bring out a new book in which the materials have been entirely rearranged and classified. Miss Eleanor Lloyd has accomplished nearly the whole of this task of reconstruction, and a large number of new mottoes are also due to her diligent research. She discovered that whilst Mrs. Gatty was making her collection, a similar one was being gathered together in France, unknown to her, by the Bar^{on} Edmond de Rivière, and published at intervals in the "Bulletin Monumental de la Société Française pour la conservation des monuments," under the title of "Devises Horaires." This collection included several mottoes copied by M. G. de Vallier, and published in the "Revue de Marseille et Provence," 1875.

9 That the Baron was not acquainted with "The Book of Sun-dials," is evident from the fact that it contained several French mottoes which are not given by him, and that he mentions no English dial except the one at Kirkdale. The papers on "Devises Horaires" were followed by a collection made by Dr. A. Blanchard entitled "L'Art populaire dans le Briançonnais," and published in the "Bulletin de la Société des Etudes des Hautes Alpes." A great number of the additional mottoes in the present volume have been drawn from these sources. The writers in most cases gave the localities where they had seen the mottoes inscribed ; many of them are in French. I have also taken about fifty Italian and Latin ones from another source, an interesting MS. note-book on dialling, "Notizie Gnomoniche," which Mr. Lewis Evans recently bought in Italy. The notes and diagrams are very elegantly penned, but the writer's name does not appear ; only the initials, D. D. G., and the date 1761. It is not stated whether the mottoes were copied from dials, or merely suggested as suitable inscriptions, but some of them are taken from the Italian poets, so I have decided to give them the benefit of the doubt and to insert them in the Book.

Many of the early writers on dialling, Johannes Paduani, Seb. Münster, and others, give lists of suitable mottoes ; and in books of emblems and devices, such as Père le Moyne's "L'Art des Devises" (1688), the dial, and the lessons to be drawn from it, are constantly found ; but if all of these were to be added the list would be endless. Want of space likewise makes it impossible to give a quaint letter of seventeenth century date, written by the Norman poet Garaby de La Luzern to the Comte de Matignon, who had asked him to write mottoes for four sun-dials which were being erected on the Comte's stables, at the Château de Torigny. The letter was quoted by Baron

de Rivière in his "Devises Horaires;" he did not know whether the inscriptions had been put up, but stated that there are no traces of sun-dials left now at the château.

At the beginning of the nineteenth century, one William Rhodes, a tobacconist and pewterer, was living in Liverpool, and he possessed several works on the art of dialling, by Fale, De la Hire, and others, which he annotated in his own writing with mottoes from dials. He bought Fale's work in 1802, but the copy had belonged, in 1675, to "Thomas Skelson," who had copied into it from Lilly's "Merlini Anglici for 1650," some curious astrological calculations as to "whether King Charles y^e first should live or Dye; being Friday y^e 19th of January 1648-9." It is rather curious that an exact science such as mathematics should have been often associated with superstitions.

In a paper on Manx sun-dials, which was read by Miss A. M. Crellin in 1889, before the Isle of Man Natural History and Antiquarian Society, she gave a short account of a dial maker named Ewan Christian. He made a dial at Kirk Michael (see No. 1330), and lived at Lewaigue. Miss Crellin says he was "commonly known by the name of 'Kione Prash,' or *Brass Head*, and was perhaps so named from the colour of his hair, or he may have been Ewan *Prash* from the metal that he worked in." Another possibility is that he earned the title from the story told of him, that "like Roger Bacon he attempted to make a brazen head, which having uttered the words, *Time is, Time was, Time is past*, fell to pieces."

The descriptions of remarkable dials *without* mottoes, which in previous editions were given partly in the "Introduction" and partly in "Further Notes," have now been re-arranged and placed together. So many discoveries of these sculptured stones have been made of late years, since the attention of archæologists was directed to them, that it has been possible to gather a considerable amount of information, both as to early dials and to the more beautiful and elaborate works of the sixteenth and seventeenth centuries. This part of the book has therefore been re-written and greatly enlarged, and the dials arranged to some extent in chronological order, or otherwise with regard to their different types. It would have been impossible to bring the Book of Sun-dials abreast with the archæological knowledge of the day without the help of those who had personally examined the dial stones, and this has been most kindly and freely given. Miss Eleanor Lloyd, who is mainly responsible for this part of the work, joins with me in especially thanking Thomas Ross, Esq., F.S.A. (Scotland), to whom we owe the greater part of the notices of Scottish dials, as well as the drawings

which accompany them. For descriptions and figures of other early dials we are indebted to the late Sir Henry Dryden, Bart., F.S.A., Robert Blair, Esq., F.S.A., Christopher Markham, Esq., F.S.A., W. G. Collingwood, Esq., C. Hodges, Esq., the Rev. H. Lang, and many others.

A new and most valuable addition to this edition is the Chapter on Portable Dials, by Lewis Evans, Esq., F.S.A. Many of the illustrations are drawn from specimens in his own magnificent collection. Portable dials form a complete group, and it is a great advantage to have them described by a master-pen. The few specimens that were mentioned in previous editions have now been included in Mr. Evans' chapter.

The short article on the Construction of simple forms of dials has been revised by the writer, J. Wigham Richardson, Esq.

For the translations of the Latin and Greek, French and Italian mottoes added to this edition, we are indebted to Professor Robinson Ellis, Maurice L. Waller, Esq., C. E. Noel James, Esq., W. Dewar, Esq., and B. B. Dickinson, Esq. Mr. Waller has had the further difficult task of interpreting some extracts from Nicholas Kratzer's MS. work on Dialling, to which we had access, through the courtesy of the Rev. Thomas Fowler, D.D., President of Corpus Christi College, Oxford, and F. Madan, Esq., of the Bodleian Library.

Very grateful thanks are also due to those who have helped us by supplying information, or by lending blocks of illustrations, especially to the Society of Antiquaries of Scotland, the Society of Antiquaries of Newcastle, the Council of the Yorkshire Archæological Society, the East Riding Antiquarian Society, Messrs. Macmillan and Co., Mr. W. Mark of Northampton, Messrs. F. Barker and Co. (12, Clerkenwell Road, London), the late Chancellor Ferguson, F.S.A., and the editor of "The Wilts Archæological and Natural History Society's Magazine." We have also to thank Miss Adeline Illingworth for her sketches, and last, though not least, Miss Margaret A. Meyler, without whose valuable aid in verifying references and correcting inaccuracies I could not have completed my share of the Book. She has further assisted me by making the Index.

HORATIA K. F. EDEN.

June 30th, 1900.

CONTENTS

CHAP.	PAGE
I. INTRODUCTION	I
II. ANTIQUE DIALS	29
III. EARLY ENGLISH DIALS	49
IV. EARLY ENGLISH DIALS— <i>continued</i>	62
V. EARLY IRISH DIALS	82
VI. RENAISSANCE DIALS, DETACHED	88
VII. CYLINDRICAL, GLOBE CROSS AND STAR-SHAPED, FACET- HEADED, AND HORIZONTAL DIALS	102
VIII. VERTICAL DIALS, DETACHED	116
IX. VERTICAL DIALS, ATTACHED	132
X. SCOTTISH DIALS	140
XI. FOREIGN DIALS	166
PORTABLE SUN-DIALS. BY LEWIS EVANS, F.S.A.	183
SUN-DIAL MOTTOES	201
ON THE CONSTRUCTION OF SUN-DIALS. BY J. WIGHAM RICHARDSON	489
SUN-DIAL TABLES	500
NOTES	504
INDEX	505

LIST OF PLATES

PLATE	TO FACE PAGE
I. NICHOLAS KRATZER. (From the Portrait by Holbein in the Louvre). Photogravure plate	Frontispiece
II. FACSIMILE OF PAGE FROM KRATZER'S MS. "DE HOROLOGIIS"	21
III. FACSIMILE OF PAGE FROM KRATZER'S MS. "DE HOROLOGIIS"	23
IV. SAXON DIAL AT KIRKDALE, YORKS	54
V. SUN-DIAL AT MOCCAS COURT, HEREFORDSHIRE	100
VI. ENGRAVED DIAL-PLATE IN THE POSSESSION OF MESSRS. BARKER, CLERKENWELL	134
VII. PORTABLE DIALS	185
VIII. ASCOT CHURCH, EYAM CHURCH	286
IX. OLD PLACE, LINDFIELD	424

LIST OF ILLUSTRATIONS

	PAGE		PAGE
TURKISH WALL DIAL	13	GREAT EDSTONE	56
SIGNAL-GUN SUN-DIAL	14	OLD BYLAND	56
CASTLEBERG, SETTLE	17	ALDBROUGH	57
HAND DIAL	22	SCHEME OF THE DIAL AT SKELTON, CLEVELAND	58
ZOCCOLO DIAL	22	BAMBURGH	62
GREEK DIAL, LEYDEN MUSEUM	31	ISEL	63
GREEK DIAL, BRITISH MUSEUM	32	CALDBECK	65
GRÆCO-ROMAN DIAL, VATICAN	34	WEST KIRBY	65
GREEK DIAL, BERLIN	35	BISHOPSTONE	67
ROMAN DIAL FROM TOR PATERNO	36	ST. MICHAEL'S, WINCHESTER	67
PHENICIAN DIAL, LOUVRE	37	STOKE D'ABERNON	68
GREEK DIAL, LOUVRE	38	HARDINGHAM	69
TOWER OF THE WINDS, ATHENS	39	DAGLINGWORTH	70
GREEK DIAL, BRITISH MUSEUM	40	SOUTH CERNEY	70
GREEK DIAL, ORCHOMENES	41	UPHILL	70, 71
ROMAN DIALS, VILLA SCIPIO	42	LANGFORD	72
WIND AND SUN DIAL, ROME	45	NORTH STOKE, OXFORDSHIRE	73
ANTIQUE DIAL, MADRID	47	BARNACK	74
BEWCASTLE CROSS	50	ECTON	76
ESCOMBE	52	POTTERS PURY	76
PITTINGTON	52	GRAFTON REGIS	76
ST. CUTHBERT'S, DARLINGTON	53	HIGHAM FERRERS	77
WEAVERTHORPE	54		

	PAGE		PAGE
ST. SEPULCHRE'S, NORTHAMPTON	77	HERIOT'S HOSPITAL	144
GEDDINGTON	78	OLDHAMSTOCKS	144
DUNCHURCH	80	ALLOA	145
INISCALTRA	82	FOUNTAINHALL	146
KILMALKEDAR	83	AIRTH	148
KILCUMMIN	84	KELBURN	150
SAUL, CO. DOWN	84	TONGUE	151
CLEOBURY MORTIMER	87	WOODHOUSELEE	153
DOVER MUSEUM	88	CARBERRY	155
IVYCHURCH PRIORY DIAL	89	LAINSHAW	155
KRATZER'S DIAL, CORPUS CHRISTI		HOLYROOD	156
COLLEGE GARDENS	90	LEE CASTLE	158
WESTWOOD OLD MANOR HOUSE, NEAR		MOUNT MELVILLE	159
BRADFORD, WILTS	91	HADDINGTON	160
GREAT FOSTERS	92	GLAMIS CASTLE	161
MADELEY COURT	93	CHARTRES	167
BADMINTON HOUSE	95	LAON	167
UPTON, NORTHANTS	97	CHÂTEAU DE JOSSELIN	168
PATRINGTON	98	FROM THE CHÂTEAU TOURNOUELLES	172
ELMLEY CASTLE CHURCHYARD	99	BUEN RETIRO, CHURRIANA	173
WILTON CROSS	100	CHURCH NEAR BRIXEN	175
SUN-DIAL AT CHEESEBURN, NORTH-		PALACE, SCHWERIN	176
UMBERLAND	103	ARAB DIAL, VICTORIA AND ALBERT	
HARTBURN	103	MUSEUM	180
NEWCASTLE MUSEUM	103	DIAL FROM HERCULANEUM	185
DEANERY GARDEN, ROCHESTER	104	PILLAR DIAL, SEVENTEENTH CENTURY	186
FELLSIDE	105	MODERN PYRENEAN DIAL	187
DIAL FROM WIGBOROUGH HOUSE	105	GERMAN TABLETS	188
SAXMUNDHAM CHURCHYARD	105	GERMAN NOCTURNAL DIAL	188
BLEADON	106	ENGLISH RING DIAL	188
SCOTSCRAIG	107	GERMAN DIAL	189
WALTON HALL	108	DISC DIAL, FRENCH REPUBLIC	190
DALSTON	113	GERMAN CHALICE DIAL	190
ST. MARY'S, SCILLY	114	ROMAN DIAL (circa A.D. 300)	191
CORPUS CHRISTI COLLEGE, OXFORD	119	GERMAN DIAL, 1713	192
THE COUNTESS' PILLAR	121	ENGLISH UNIVERSAL RING DIAL (circa,	
MARKET CROSS, CARLISLE	122	1620)	193
ASHLEWORTH CHURCHYARD	123	QUADRANT MADE FOR RICHARD II.	194
COVENT GARDEN, 1747	125	GERMAN SHIP-DIAL	195
SEVEN DIALS COLUMN BEFORE 1773	125	BRASS BOX DIAL	195
STONE FORMERLY THE "SEVEN DIALS,"		FINGER RING DIAL	195
WEYBRIDGE	126	POCKET DIAL	196
LYDNEY	127	NUREMBERG DIAL AND COMPASS	197
OVER THE DOORWAY OF A BOOT-SHOP		GERMAN METAL FOLDING DIAL	197
AT RYE	133	FRENCH SILVER DIAL	198
BOLTON ABBEY	133	ITALIAN DISC DIAL	198
ABERDOUR	141	CRUCIFIX DIAL	198
DIAL STONE FOUND IN TAYMOUTH		JAPANESE SILVER DIAL	199
CASTLE GARDENS	142	DESIGN BY REV. G. J. CHESTER	219

LIST OF ILLUSTRATIONS

xvii

	PAGE		PAGE
LIBERTON HOUSE	214	FROM "DE SYMBOLIS HEROICIS" . .	347
MELBURY CASTLE, DORSET	223	IN PRIESTGATE, PETERBOROUGH . .	350
HATFORD CHURCH	224	BROUGHAM HALL	354
SIR FRANCIS HOWARD'S DIAL, CORBY		ALL SOULS, OXFORD	365
CASTLE	233	LEYLAND CHURCHYARD	373
BARNES HALL, SHEFFIELD	241	NUN-APPLETON HALL	379
DUTCH CHURCH, AUSTIN FRIARS . .	243	DIAL HOUSE, TWICKENHAM	384
WINDOW DIAL, HIGH STREET, MAR-		FOUNTAINS HALL, near RIPON . .	399
BOROUGH	246	INVERESK CHURCH	400
ROSENHEIM	249	COMPTON WYNYATES	401
ABBOTSFORD	252	MONTHY, CANTON VALAIS	413
TRELLECH CHURCHYARD	254	SHENSTONE VICARAGE	414
UNITED STATES NATIONAL NOTE . .	261	MILLRIGG, CULGAITH	417
CATTERICK	263	JOHN KNOX'S HOUSE, EDINBURGH .	434
MALVERN	273	THE GRAMMAR SCHOOL, RYE . . .	429
SUN-DIAL AT WINDSOR CASTLE . .	276	THORP PERROW, YORKSHIRE . . .	435
CASTLETON, DERBYSHIRE	280	ST. MARY'S CHURCH, PUTNEY . . .	436
FROM THE "BOOK OF EMBLEMS" . .	285	ROBINSON'S HOSPITAL, BURNESTON .	440
ON THE PORCH OF BAKEWELL		NORMAN KEEP, NEWCASTLE-ON-TYNE	442
CHURCH	294	VALCROSIA, near BORDIGHERA . .	445
IN THE CLOISTER GARDEN, WIN-		MOCCAS COURT	448
CHESTER COLLEGE	294	ST. BÉAT, HTES. PYRENEES . . .	449
STANWARDINE HALL, near BAS-		HELSTON CHURCHYARD	454
CHURCH	294	CAWSTON LODGE, RUGBY	455
AN INN IN ROUGEMONT	302	ASHURST CHURCH, KENT	457
WALTHAM RECTORY	304	BELFRY AT PRA	465
THE CLOSE, SALISBURY	316	WIGMORE GRANGE	468
ST. JOHN THE BAPTIST, MORWENSTOW	316	YARROW KIRK	474
YORK MINSTER	320	ECCLESFIELD CHURCHYARD	475
STA. BARBARA MISSION, CALIFORNIA .	322	DRYBURGH ABBEY	476
WYCLIFFE-ON-THE-TEES	324	CHURCH OF KING CHARLES THE	
ABBEYFIELD, near SHEFFIELD . . .	334	MARTYR, TUNBRIDGE WELLS . . .	483
HAYDON BRIDGE, NORTHUMBERLAND .	341	SILVER POCKET DIAL IN THE POSSES-	
NEAR DANBY MILL, YORKSHIRE . .	345	sion OF THE REV. J. E. STACYE .	486
GREYSTOKE CHURCHYARD	345		

SUN-DIALS

CHAPTER I

INTRODUCTION

"The Dial which doth houres direct—
(Life's guider, Daye's divider, Sun's consorter,
Shadow's dull shifter and Time's dumb Reporter.)"
SYLVESTER'S *Du Bartas, Divine Weekes.*

THERE is no human invention more ancient, or more interesting, than that of the sun-dial ; so ancient that the exquisite essayist, Charles Lamb, says, " Adam could scarce have missed it in Paradise " ; and so interesting, that we may be sure that man's first want, after supplying the cravings of hunger, would be to invent some instrument by which he could measure the day-time into portions, to be allotted to his several vocations.

"Please. sir. what's o'clock?" is the child's enquiry. as he "tents"

ERRATA.

- Page 11, line 17, *for* "Dionysios" *read* "Dionysos."
Page 23, line 5, *for* "pat" *read* "plat."
Page 33, line 34, *for* "Dionysios" *read* "Dionysos."
Page 41, line 17, and under cut, *for* "Orchomenes" *read* "Orchomenos."
Page 57, line 6, *for* "a rear" *read* "arear."
Page 58, line 4, *for* "storms" *read* "stones."
Page 66, line 29, *for* "altar" *read* "dial"
Page 78. The illustration of the Geddington dial has in some copies been accidentally inverted.
Page 178, line 29, *for* "Tegnier" *read* "Tegnèr."
Page 220, No. 100, *for* "rire" *read* "rève."
Page 342, No. 819, *for* "Monitiem" *read* "Monitionem."
Page 408, No. 1230, *for* "valve" *read* "valor."
Page 423. No. 1324, *for* "Gnomonium" *read* "Gnomonum."

ERRATA.

Page 11, line 17, *for* "Dionysios" *read* "Dionysos."

Page 23, line 5, *for* "pat" *read* "plat."

Page 33, line 34, *for* "Dionysios" *read* "Dionysos."

Page 41, line 17, and under cut, *for* "Orchomenes" *read* "Orchomenos."

Page 57, line 6, *for* "a rear" *read* "arear."

Page 58, line 4, *for* "storms" *read* "stones."

Page 66, line 29, *for* "altar" *read* "dial"

Page 78. The illustration of the Geddington dial has in some copies been accidentally inverted.

Page 178, line 29, *for* "Tegnier" *read* "Tegnèr."

Page 220, No. 100, *for* "rire" *read* "rève."

Page 342, No. 819, *for* "Monitiem" *read* "Monitionem."

Page 408, No. 1230, *for* "valve" *read* "valor."

Page 423, No. 1324, *for* "Gnomonium" *read* "Gnomonum."

SUN-DIALS

CHAPTER I

INTRODUCTION

“The Dial which doth houres direct—
(Life’s guider, Daye’s divider, Sun’s consorter,
Shadow’s dull shifter and Time’s dumb Reporter.)”
SYLVESTER’S *Du Bartas, Divine Weekes.*

THERE is no human invention more ancient, or more interesting, than that of the sun-dial ; so ancient that the exquisite essayist, Charles Lamb, says, “ Adam could scarce have missed it in Paradise ” ; and so interesting, that we may be sure that man’s first want, after supplying the cravings of hunger, would be to invent some instrument by which he could measure the day-time into portions, to be allotted to his several vocations.

“ Please, sir, what’s o’clock ? ” is the child’s enquiry, as he “ tents ” his mother’s cow in the lane pastures ; and the hardy backwoodsman, hewing out a settlement for himself in the primæval forest, leans on his axe, and looks to the sun’s position in the heavens for information how soon he may retire to his hut for food and sleep. Time is a blank if we cannot mark the stages of its progress ; and it has been found that the human mind is incapable of sustaining itself against the burden of solitary confinement in a dark room, where no note can be taken of time. The great Creator, Who made the sun to rule the day, and the moon and the stars to govern the night, has adapted our nature to these intermitting changes, and implanted in us an immediate desire to count how, drop by drop, or grain by grain, time and life are passing away.

Edgar Poe sings, in melancholy strain, as he stands in imagination on the seashore :

"I hold within my hand
Grains of the golden sand ;
How few, yet how they creep
Through my fingers to the deep,
While I weep !"

The first notion of dissecting time would, of course, be suggested by a tree, or a pole stuck in the soil, the shadow of which, moving from west to east, as the sun rose or declined in the sky, would lead men to indicate by strokes on the ground the gradual progression of the hours during which the daylight lasted. Further observation would discover that if the pole were slanted so as to point to the north star, and lie parallel with the earth's axis, a sun-dial would be constructed that would measure the day. But the fixing of a complete instrument, varying in its lines and numbers, according to the locality, whether horizontally or vertically placed, would be a matter of progressive astronomical and mathematical calculation, which only the scientific could accomplish, long after the rude art of uncivilized man had discovered the means of ascertaining midday, and dividing into spaces the morning and afternoon.

Herodotus (443 B.C.) says, "It was from the Babylonians that the Greeks learned concerning the pole, the gnomon, and the twelve parts of the day" (B. ii., cap. 109).¹ These twelve parts, however, would always differ in length according to the season, except at the equinox, because the ancients always reckoned their day from sunrise to sunset. The word "hour," therefore, as they used it, must be regarded as an uncertain space of time, until it was accurately defined by astronomical investigation.

The Jewish Scriptures, our oldest literature, give us no clear information as to how time was reckoned in the ancient world. "The evening and the morning were the first day" (Gen. i. 5) is the earliest description of a period of time whose duration we cannot precisely

¹ "The Greeks of later times had a double mode of reckoning the hours. According to the popular method, they divided the period from sunrise to sunset into twelve equal parts. The hours reckoned upon this principle varied in length with the season. According to the more scientific method, the day and night at the equinox were severally divided into twelve equal parts, and each of them was reckoned as an hour. The division of the day into twelve parts, which Herodotus describes . . . was doubtless reckoned according to the former method. Πόλος signified a hollow hemisphere ; and hence came to signify the basin or bowl of a sun-dial in which the hour lines were marked. In this sense it is used by Herodotus."—Adapted from SIR G. C. LEWIS, "Astronomy of the Ancients,"

estimate. A week is also thus defined: "On the seventh day God ended His work which He had made, and He rested on the seventh day from all His work which He had made" (Gen. ii. 2).

Farther on in the Jewish history we find the day divided into four parts. In Nehemiah, ix. 3, we read: "They stood up in their place, and read in the book of the law of the Lord their God one fourth part of the day; and another fourth part they confessed, and worshipped the Lord their God." This mode of computation appears to have lasted until our Saviour's time; the householder in the parable, hiring servants, is described as going out at the third, sixth, and ninth hours to engage additional labourers, and afterwards at the eleventh hour before the day closed (Matt. xx. 1-8). The night was not divided into hours, but into military watches; the Jews recognized three such divisions, the "beginning of the watches" (Lam. ii. 19), the "middle watch" (Judges, vii. 19), and the "morning watch" (Ex. xiv. 24; 1 Sam. xi. 11); "the second watch," or the "third watch" (Luke, xii. 37, 38). The Greeks and Romans had four of these night watches, and after the establishment of the Roman supremacy in Judæa it is evident that the division of the Jewish night was altered. In Acts, xii. 4, four relays of soldiers are spoken of; and in Matt. xiv. the "fourth watch"; whilst in Mark, xiii. 35, the four watches are described as "even, midnight, cockcrow, and morning."

The mention of the hour as a distinct space of time occurs first in the Book of Daniel;¹ it is probable, therefore, that after the Captivity the Babylonian division of day and night into twelve parts was adopted by the Jews, and amalgamated with their own system. This was also the case with the Assyrians, amongst whom the calendar of their Accadian neighbours was in use as early as the reign of Tiglath Pileser I. "Along with the establishment of a settled calendar," writes Professor Sayce, "came the settled division of day and night. The old rough division of the night into three watches, which we find in the Old Testament, remained long in use; but although the astrological works of Sargon's library do not know of any other reckoning of time, it was gradually superseded by a more accurate system."²

The Egyptians divided their day and night into twenty-four parts at a very early period.

But our business is with sun-dials, and the first on historical record is that of Ahaz, who reigned over Judah in the eighth century B.C. It has

¹ Daniel, iii. 6; iv. 19.

² "On the Astronomy and Astrology of the Babylonians," Professor A. H. Sayce; "Transactions of the Society of Biblical Archaeology," vol. iii., 1874.

been observed that the Babylonians or Chaldæans were the first people who seem to have divided time by any mechanical contrivance. A lucid atmosphere is favourable to celestial contemplation, of which the people of the East have always availed themselves; and, even now, those countries most abound in sun-dials which have the clearest skies. The Rev. S. C. Malan thus writes of a visit to Ur of the Chaldees, and the landscape of serene beauty presented to him on the site of Rebekah's well: "As the shadows of the grass and of the low shrubs around the well lengthened and grew dim, and the sun sank below the horizon, the women left in small groups; the shepherds followed them, and I was left in this vast solitude, yet not alone; the bright evening star in the glowing sky to westward seemed to point to the promised land, as when Abraham took it for his guide."

From this people of Chaldæa, these star-searchers of the old world, we may conclude that Ahaz got his dial, and we read in the history of the unfortunate reign of this king a possible, nay, a likely, cause of his introduction of Babylonian customs. Being pressed in war by the kings of Israel and Syria, Ahaz sought alliance and rescue from Tiglath Pileser II., king of Assyria, who, indeed, relieved him in his emergency, but made him pay a heavy tribute, and conform his worship to that of the Assyrians. "The altars at the top of the upper chamber of Ahaz"¹ which Josiah removed, were probably connected with the worship of the stars, and they prove the adoption of Babylonian usages. Among these we may imagine that the "dial of Ahaz"² held a conspicuous place; but what its actual form was, remains a matter of conjecture.

The word "degrees" in our translation of the Bible has been, in the margin and in the Revised Version, rendered "steps," and this reading has given rise to various suppositions. Some writers have thought that a pillar outside the king's palace threw a shadow on the terrace walk, which indicated the time of day. The Rev. J. W. Bosanquet considers³ that "the invention of the pole and gnomon combined, producing an instrument perfect in itself for all observations, was probably connected with the rectification of the Babylonian calendar in B.C. 747, nineteen years before the accession of Ahaz," and that the dial was therefore a scientific instrument, the shadow being cast on steps in the open air, "or more probably within a closed chamber, in which a ray of light was admitted from above, which passed from winter to summer up and down an apparatus in the form of steps. Such chambers were in use in Eastern observatories till the middle of the eighteenth century."

¹ 2 Kings, xxiii. 12.

² 2 Kings, xx. 9-11.

³ "Transactions of the Society of Biblical Archæology," vol. iii., 1874.

On the other hand, one of the explanations which the Rabbins give of the dial of Ahaz is, that it was "a concave hemisphere, in the middle of which was a globe, the shadow of which fell upon diverse lines engraved on the concavity." They add that these lines were twenty-eight in number.¹ This description is not unlike the dial attributed to Berosus.

It is remarkable that no sun-dials of the ancient Egyptians are known. Those which have been found associated with Egyptian monuments, such as the one discovered at the base of Cleopatra's Needle, are of Greek origin. Professor Rénouf, writing in 1887, says: "We are at a loss as to the method used by the Egyptians for measuring time. They certainly had some method, for we have copies of a very ancient calendar, giving the hours of the night at which certain stars culminated. Of course this could not have been a dial, and it must have been an instrument by which *equal* intervals of time were measured. It may have been an hour-glass or a water-clock, but no such instruments have been found. There is an Egyptian word signifying a clock, but the picture of the hieroglyph looks to me like a meridian instrument. There is no reason for supposing that the obelisks were intended for gnomons, though they might possibly have been utilized for the purpose. We know that at a later time they actually served as lightning conductors."

Whether obelisks or pillars were formerly used as time-tellers or not, a primitive mode of dividing time by similar means is still practised in Upper Egypt. The natives, we are told, plant a palm-rod in the open ground, and arrange a circle of stones round it, thus forming a sort of clock face, and on this the shadow of the palm falls, and marks the time of day. The plougher will leave his buffalo standing in the furrow to consult this rude horologe, and learn how soon he may cease from his work—illustrating the words of Job (vii. 2), "As a servant earnestly desireth the shadow."

Sun-dials of this sort, used for regulating the hours of work for a waterwheel, were noticed as recently as 1893 by Mr. E. A. Floyer. He writes that "two kinds were used. At Edfu a horizontal *dhurra* stalk lay north and south on two forked uprights. East and west were pegs in the ground, dividing evenly the sphere of earth between the sunrise and sunset shadows of the horizontal gnomon. Further south, the gnomon was a vertical stick. The gnomon and the space between the two pegs are equally called *alka*. To the question, 'What do you

¹ Kitto's "Pictorial Bible," notes, vol. i.

do when the shadow reaches this peg?' the answer always comes, 'We harness, or hitch on, another pair of bullocks.' At Aswan, instead of a stick, a wall or boulder is sometimes used, and the dividing pegs are pressed in level with the soil, lest they should be removed by the feet of cattle or passers-by. The phrase may often be heard, 'Go and see the *alka*'; that is, 'Go and see the time.' . . . Some twenty years ago, in Arabia, the celebrated sheikh Daij of Koweit, wishing to test the astronomical knowledge of the writer, asked him to construct a sun-dial. He interrupted learned explanations about knowledge of latitude, horizontal planes, etc., by abruptly planting his spear in the ground and marking with his foot where the shadow would fall at the hour of prayer."¹

A learned friend offers the following remarks: "The shadow of a tree or vertical pillar cannot permanently indicate the time of day, because its motion is not uniform. The sun's motion in his diurnal track is uniform; he always describes the same angle in the same time; but the angular velocity of the shadow of a tree or pillar is greater at noon than it is at sunrise or sunset; it also varies with the time of year. The gnomon that indicates the time of day must slope to the horizontal plane at an angle equal to the latitude of the place, and must also lie due north and south. This may be illustrated by the blunder the Romans made in bringing a Sicilian sun-dial to Rome."² The same authority proceeds to say, "The proper slope of the gnomon may be obtained without a knowledge of the latitude; and the Babylonians probably did obtain this, and from it determined the latitude, and ascertained that the earth is spherical; so also the Greeks. A vertical gnomon may be used to determine, not the time of day, but its length and variation of length in terms of equinoctial hours, and thus the Egyptian obelisk brought to Rome by Augustus was used,³ though from causes which Pliny conjectures, the inferences they drew were subsequently found to be erroneous. During the Attic period, the Greeks of that city ascertained the time of day by measuring a shadow, but it is difficult to determine how they did this. They talk of a six-foot shadow or mark, a ten-foot shadow or mark, etc. Expressions of this kind are very frequent, and yet they give little or nothing whereby to show the particulars of the measurement—whether it was the length of the shadow that was measured, or its angular distance from a given line, or even what the thing was that gave the shadow." [In Aristophanes (*Eccl.* 652) is

¹ "Primitive Sun-dials in Upper Egypt," *Ath.*, 1895, ii. 458.

² Pliny, *H. N.*, vii. 214; Censorin, *de D. N.*, 23.

³ Pliny, *H. N.*, xxxvi. 72.

found the expression *στοιχείον δεκάπουν*, a *gnomon* 10 feet long, probably meaning "supper-time"; and in Greek writers of a later period the same word is used, with epithets signifying 6, 12, and 7 feet. There also occurs the word *ἡ σκιά*, the shadow, to which the same epithets are applied.] "There is little in any of these writers to suggest even a conjecture, still less to support a probable one, respecting the mode of measuring the shadow. The shadow was thrown on the ground; it was 20 feet long in the morning, about 6 at noon, and 10 or 12 in the afternoon. Salmasius conjectures that it was each man's own shadow, which he measured with his own foot. This is really ingenious, but all that is certain is, that the method was far from exact, very imperfect, and required altering several times in the year."

Such was the conclusion at which our learned friend arrived; but one more quotation must be given from his kindly comments: "There certainly is a considerable probability that what is called poetic astronomy is as old as human nature itself; and it is a very perfect system. Without any instrumental aid the first occupiers of Arabia could determine the time of year and the time of day with as much accuracy as they had any occasion for. The loss of this science, and the causes, moral and historical, that produced it, are curious, and as connected with the Holy Bible, they are important; but all these matters require leisure, long life, and patience,—things which few possess, and still fewer wish for."

Salmasius' conjecture that a man's shadow was measured by the foot, though probably the foot of another person, receives confirmation from a passage in Flacourt's travels in Madagascar. In the middle of the seventeenth century Flacourt found that the Malay population, having learned the divisions of the day from the Arabs, made use of the shadow of a man to tell the time, and measured by the length of the foot. In that latitude there is not much variation between the seasons. When the shadow was twenty-four times the length of the foot, they said that the sun was within an hour of rising or setting, as the case might be.¹

Traces of the Semitic use of the *gnomon* have lately been found in Rhodesia. In a paper read before the Royal Geographical Society in February, 1899, Dr. H. Schlicter stated that amongst the ruins discovered at Zimbabwe there was an enormous *gnomon* comprising a total angle of 120 degrees, which he thought might date from about 1000 B.C. The country was then colonized by Semitic races from the

¹ Houzeau et Lancaster, "Bib. Mathématique," Introd., vol. i.

borders of the Red Sea, Jews, Phœnicians, and Western Arabians. Strabo¹ speaks of countries "where a gnomon is placed perpendicularly on a plane surface; the shadow which it casts at midday falls first to one side and then to the other. This, however, only occurs in the tropics, with us the shadow always falls to the north."

Amongst the "Laws of the Buddhist Priesthood" there is one which directs that instruction shall be given to the candidate for the priesthood "respecting the measuring of the shadow, the several seasons, the divisions of the day, and concerning the uses of the whole of these."

When we turn to the known history of sun-dials the first name which meets us is that of Anaximander of Miletus. He placed gnomons in the Sciothera of Lacedæmon for the purpose of indicating the solstices and equinoxes, and is said to have introduced sun-dials into Greece about the year B.C. 560. Anaximander had studied under Thales, who was of a Phœnician family, and had travelled in Egypt, and an art which had reached Jerusalem in the days of Ahaz must equally have become known to the Phœnicians.

The Greek sun-dials do not seem to have told the hours of the day before the fourth century B.C. Till then, and after, the time was ascertained by clepsydræ, which, though dividing the day into equal periods, had this disadvantage, that they required to be constantly watched, and could not be carried about. But the great advance in scientific knowledge, due to the labours of astronomers and mathematicians, as Berossus the Chaldæan, Eudox of Cnidus, Aristarchus of Samos, Archimedes, Apollonios of Perga, Dionysidorus of Melos, and others, brought with it the invention of instruments which told the time more conveniently than the clepsydræ, and not less accurately. Meton the astronomer is said to have set up a sun-dial against the wall of the Pnyx at Athens in 433 B.C., and there was a similar dial at Achradina near Syracuse in the time of Archimedes, a copy of which was placed on the deck of the great ship of Hiero. In the third century B.C. the comic poet Baton speaks of a horologium or sun-dial as a means for determining the time of day. A specimen Greek sun-dial found at Heraclea, and now in the Louvre, is thought to date from the early part of the same century. As in Greek the numerals are represented by letters of the alphabet, it so happens that those letters which indicate the hours from noon to 4 p.m. also spell the word ζῆν = "live." An epigram attributed to Lucian plays upon this word in the lines :

¹ Bk. II., pp. 125-136.

ἕξ ὥραι μόχθοις ἱκανώταται, αἱ δὲ μετ' αὐτὰς
 γράμμασι δεικνύμεναι ΖΗΘΙ λέγουσι βροτοῖς.

"Six hours to toil, the rest to leisure give ;
 In them—so say the dialled letters—LIVE,"¹

The Romans adopted dials from the Greeks, and Papirius Cursor set up the first in Rome in the court of the Temple of Quirinus in 293 B.C. At this time the astronomical year of twelve months was introduced instead of the old Roman year of ten months ; "and," writes Mr. Dyer,² "perhaps with a sly innuendo on the part of its dedicator, this dial was placed in front of the Temple of Quirinus, or Romulus, who was reputed to have established the year of ten months." Before this time noon was proclaimed by a crier—the Consul's marshal—from the front of the Curia, when the sun appeared between the Rostra and a spot called "the station of the Greeks." About thirty years later, in 263 B.C., during the first Punic war, Valerius Messala, having taken the town of Catania in Sicily, brought a sun-dial from that place. This was set on a pillar near the Rostra, but not being calculated for the latitude of Rome, it told the time inaccurately enough. It remained, however, without a rival for ninety-nine years, until, in 164 B.C., Marcius Philippus, then Censor, put up a more carefully designed dial beside it. Another sun-dial was subsequently placed in the Forum, on the Basilica Æmilia, and was probably drawn upon a plane surface. That of Marcius Philippus seems to have been a concave spherical dial.

The obelisk which now stands in the Piazza Monte Citorio, Rome, was brought from Egypt by the Emperor Augustus, and set up as a gnomon in the Campus Martius, under the direction of the mathematician Facundus Novus. The pavement around it was marked out with lines in bronze, which were sunk as deeply in the ground as the height of the obelisk itself. The obelisk seems to have kept its place for some centuries, but was ultimately thrown down and lost sight of. It

¹ Another epigram, throwing better light on the way to live, was composed by a later author, Philip Doddridge (1702-1751). He wrote it upon the motto of his family, "Dum vivimus vivamus" :

" 'Live while you live,' the epicure would say,
 'And seize the pleasures of the passing day.'
 'Live while you live,' the sacred preacher cries,
 'And give to God each moment as it flies.'
 Lord, in my views, let both united be ;
 I live in pleasure when I live to Thee."

² "City of Rome," *Introd.*, p. lvi. See also Pliny, H. N., vii. 60.

was found, together with parts of the figures of the dial, in 1463, but again suffered neglect, and was not placed where it is now till 1792.¹

That dials were frequently to be seen in ancient Rome is evident from the lines attributed to Plautus, who died about 184 B.C., and it is probable that the information they gave was noisily announced at stated intervals by a trumpeter or crier :

"The gods confound the man who first found out
How to distinguish hours—confound him, too,
Who in this place set up a sun-dial,
To rub and hack my days so wretchedly
Into small pieces! When I was a boy,
My belly was my sun-dial—one more sure,
Truer, and more exact than any of them.
The Dial told me when 'twas proper time
To go to dinner, when I had aught to eat;
But, now-a-days, why even when I have,
I can't fall to, unless the sun gives leave.
The town's so full of these confounded dials,
The greatest part of its inhabitants,
Shrunk up with hunger, creep along the street."

—*Quoted by Aulus Gellius, B. 3, C. 3.*

Cicero, in the year B.C. 48, writes to Tiro about a sun-dial which he desired to put up at his villa at Tusculum; and his death is said to have been foretold by the omen of a raven striking off the gnomon of a dial.²

An epigram, attributed to the Emperor Trajan,³ refers to the art of dialling :

ΤΡΑΙΑΝΟΥ ΒΑΣΙΛΕΩΣ.

Ἀντίον ἥλιον στήσας ῥίνα καὶ στόμα χάσκον,
δείξεις τὰς ὥρας πᾶσι παρερχομένοις.

"Set your nose and wide mouth to the sun, and you will tell the hours to every passer-by."

He was ridiculing a man who had a long nose and a wide mouth, very much curved, and grinning; while his many teeth, all visible, resembled the characters that denote the hours, and their double line.

There can be little doubt that the use of sun-dials extended over the greater part of the Roman Empire. From inscriptions which have

¹ Pliny, H. N., xxxvi. 9, § 71, 72; "Astronomy of the Ancients," by Sir G. C. Lewis; "Encyc. Brit.," 8th edit.; "Rome and the Campagna," by R. Burn.

² "Epist. ad Fam.," xvi. 18; Lewis, "Astronomy of the Ancients"; Val. Max., i. 5, 5.

³ "Anthol. Pal.," xi. 418.

been preserved we may trace them in Italy, France, Germany, Spain, Dacia, and Algeria. Even a village such as the *pagus Læbactium*, now Castel Lavazzo, near Belluno, possessed its horologium. Vitruvius enumerates thirteen different kinds of dials as known in his day, some of which were portable, and were to the larger dials what watches are to clocks. Plutarch, says M. Houzeau, mentions an equatorial tablet which was used in his time in Egypt. It was parallel with the plane of the equator, as was the style with the axis of the earth, and the equal hours were described on it. Most of the detached antique dials which remain to us appear to have been the work of Greek artists. The beautiful four-faced marble dial, brought from Athens by Lord Elgin, and now in the British Museum, bears the name of Phaidros, a Greek architect of the second or third century of the Christian era. This told the time of day to the passers-by in the streets of Athens, as did the eight vertical dials on the Tower of the Winds, which may be a little earlier in their date. A hemisphere, or hollowed dial, of the kind said to have been invented by Berosus, stood near the theatre of Dionysios; indeed neither Athens nor any other great city, had for some hundreds of years any lack of time-tellers. As for the Romans, they placed them, we are told,¹ on their temples, their baths, their town houses, their country villas, in their public places, and on their tombs.

Dials were sometimes dedicated to the gods, notably to Jupiter, Juno, and Diana, and, indeed, some of the gods were provided with slaves whose special duty it was to tell them the time of day. For

“Peradventure he sleepeth, and must be awaked.”

Baron de Rivière notices an inscription dating from about 47 B.C., and found at old Toulouse, which tells how a temple and horologium had been constructed by one Cirratus, and gives the names of the slaves who did the work. Dials were set on the tombs in order to draw attention to the epitaphs which recorded the name and virtues of the deceased. It was hoped the passers-by might read these when they paused to note the time.

After the fall of the Roman Empire the inscriptions cease, but we find other notices of sun-dials even in the “dark ages.” Thus, in the sixth century, Theodoric, the great “Dietrich,” sent a sun-dial and a clepsydra as presents to Gondebert, King of the Burgundians; and Cassiodorus, who himself gives us this piece of information, put up a dial on a monastery in Languedoc. In the time of Justin II., A.D. 565-

¹ Marquardt, “Vie privée des Romains.”

578, there was a sun-dial at Constantinople with an inscription quoted by Sir George Lewis :

ὥράων σκοπιάζει σοφὸν σημάντορα χαλκὸν
αὐτῆς ἐκ μονάδος μέχρι δωδεκάδος.

*"Watch the wise brazen index of the hours
From very unity until the twelfth."*

Pope Sabianus, who succeeded Gregory the Great in A.D. 606, is said to have ordered dials and clocks (clepsydræ) to be placed on churches so as to distinguish the time of day. In the ninth century the Venerable Bede gave directions¹ for the construction of sun-dials (*e.g.*, "to make a dial of metal or wood with six sides, each with a gnomon"); and in the tenth century Gerbert, the monk of Auvergne, placed a horologium in Magdeburg for the Emperor Otho, "after observing through a tube the star which guides the seaman"

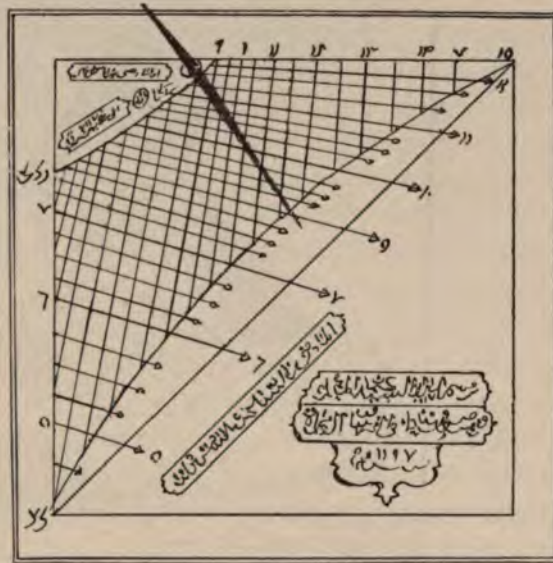
Gerbert, who was born and brought up at Aurillac (where a modern sun-dial records his name and fame), died in 1003, as Pope Sylvester II. In his treatise on Geometry directions for making a sun-dial may be found.² He had been educated on "the Marches of Spain," which then included Barcelona, and appears to have studied mathematics through the works of the Arabs, the inheritors of Greek learning. The best known Arabian writer is probably one who lived after Gerbert's time, at the beginning of the thirteenth century, Abul Hasan, or Ali ibn' Ismael, whose works were translated into French by M. de Sedillot, and published in Paris in 1834. They contain rules for the construction of plane, conical, and also of cylindrical dials, concave and convex. One of the plane dials is shaped like a horseshoe, and intended to be placed horizontally. Abul Hasan is said to have been the first to develop, practically, the theory of equal hours; and the invention of clocks, which took place about the same period, brought this division of night and day at last into general use. We do not know whether there was a sun-dial in the observatory at Samarcand built by Ulugh Bey, a Tartar prince, who died in 1489; but there is no doubt that the interest taken in the study of gnomonics long lingered in the East, and this is probably the reason why sun-dials are still commonly to be found in Moham-medan countries.

As prayer is ordered to be observed five times in every twenty-

¹ "Libellus de Mensura Horologio," Bede, Op. Colon., 1612, tom. ii., p. 392.

² "Geometria Gerberti," caput xciv. : *Alla Ratio meridianum describendi*. The text is obscure, and the "Cod." has instead of the above title: *De horologio per umbram inveniando*.

four hours, all the principal mosques in Constantinople are provided with dials, in order that people may ascertain the exact time of worship. The sun-dials on the mosques of S. Sophia, Mohammed, and Sulimania, have no motto or inscription, except what expresses the course of the shadow and the name of the maker. But on some, in addition to the lines which mark the solar movement, there is a line drawn which points to the sacred city of Mecca, towards which the faces of the faithful must be turned during the performance of their religious offices. It is said that the Turks erect a sun-dial whenever they build a mosque, and that those on the mosques in Constantinople would form a historical succession, supposing always that the dials were coeval with the buildings. The example in our figure is painted on the wall of the Kassim Pasha barracks, where the marines who work in the arsenal are quartered. The inscription in the right-hand corner means: "The engraver, Essüd Osman. At the Arsenal. Hidjrà, one thousand one hundred and ninety-seven. 1197."



TURKISH WALL DIAL.

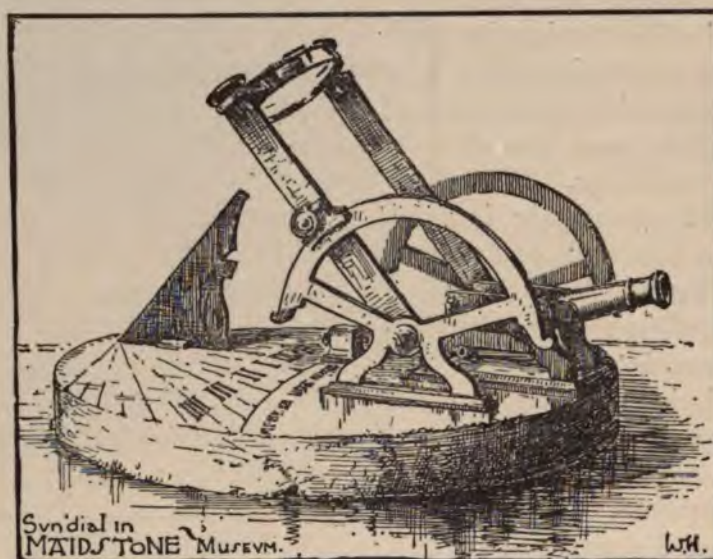
Our information as to the history of sun-dials in the farther East is scanty, but as to their modern use the following testimony was given in 1870 by a private correspondent of the highest authority:

"Sun-dials are the commonest things possible in China. You cannot get into your chair or palanquin, but a flat board, with a dial fixed in the centre, is put before you to keep you in. They are on the sides of houses, and on boxes; indeed, they are most common, but none of us recollect any mottoes under them: though the Chinese have such a habit of putting mottoes to everything, that it is more than likely that sun-dials are no exception. They are probably ancient. There are sun-dials in Japan, for I had one in my garden."

Touching Japanese dials, one who was long resident in Japan wrote about the same time: "In regard to sun-dials, I can only say that there are sun-dials in Japan, but not as fixtures; and that they are not pro-

vided with mottoes, as is the case on old sun-dials in Europe. You will probably remember the small bronze portable sun-dial every Japanese carries about with him ; but I never saw a large fixed sun-dial anywhere, except at a watchmaker's shop in Yokohama, who had made use of the railing round his shop as a kind of dial, according to which he adjusted his watches. The shadow of the railing had been previously adjusted, and was marked off after the Saturday gun from the flagship."

We may here remark that at Paris, and we believe also at Edinburgh and elsewhere, the hour of noon was at one time proclaimed by a cannon,



SIGNAL-GUN SUN-DIAL.

which was fired by the rays of the sun being concentrated on a magnifying glass so placed as to ignite the powder in the touch-hole when the sun reached its meridian height. The gun stood on a platform which was marked as a sun-dial, and therefore, simultaneously with the explosion, the gnomon cast its shadow on the figure XII. Small sun-dials made after this pattern are not uncommon.

Some few years ago little portable tablet dials, fitted with compasses, were commonly sold in Chinese towns. They had silken string gnomons, stretching from the inside of the lid or upper tablet to the lower one, and were sun-dials and moon-dials combined, the former being marked inside, the latter outside the lid. These dials closely resembled the ivory portaria made at Nuremberg in the sixteenth and seventeenth centuries, and were probably introduced into China by the Jesuits, although a family in the province of Ngáuhwni is said to have had the

monopoly of their manufacture "from remote antiquity."¹ The Chinese are known to have been able to determine the obliquity of the ecliptic by means of the gnomon as early as B.C. 1100,² but it is not certain when they became acquainted with the use of the pole. Possibly this discovery may have come to them, as to the Greeks, from Babylon. Their night and day, like that of the Chaldeans, is divided into twelve parts, and begins at what with us is 11 p.m. These spaces, which are marked by signs, are divided into eight *kih*, answering to our quarters of an hour. This system is of later date than Confucius, in whose time the ten-hour division was in use.

Passing from Asia to America, we meet with traces of sun-dials before the Spanish Conquest. Prescott³ tells us of the immense circular block of carved porphyry disinterred in 1790 in the great square of the city of Mexico, on which the calendar was engraved, and which is declared by Gama to have been a vertical sun-dial. The Peruvians also had erected pillars of curious and costly workmanship serving as dials, and from these they learned to determine the time of the equinox. When the shadow was scarcely visible under the noon-tide rays, they said that "the god sat with all his light" upon the column.⁴ Their Spanish conquerors threw down these pillars as savouring of idolatry.

We shall not expect to find amongst the northern nations that understanding of the art of dialling which the Arabs inherited from Greece. We have, however, some record of the manner in which our Teutonic forefathers measured time, in the dials which are here and there found built into the walls of old churches. These stones, roughly engraved with lines placed at varying intervals, and radiating from a common centre where once a gnomon was placed, were the time-tellers of Englishmen before the Conquest, and have been thought to show the manner in which the tribes by whom Britain was settled were wont to divide their day.

The Greek and Latin method of dividing night and day into twenty-four hours, which now prevails over Europe, made its way slowly in England. It is probable that it was not adopted by the invading tribes for a long time after their settlement in Britain. If the Britons, as is likely, learned it from the Romans, they kept their knowledge to themselves, and this time division must have been re-

¹ Macgowan, "Timekeeping," "Chinese Repository," vol. xx.

² "Trans. of Soc. of Biblical Archaeology," vol. iii., pt. 1.

³ Prescott, "Conquest of Mexico," 1850, vol. i., p. 103.

⁴ *Ibid.*, "Conquest of Peru," vol. i., p. 110.

introduced with Christianity, and was only gradually adopted by the inhabitants of the country. The Rev. D. H. Haigh, from whose exhaustive paper in the "Yorkshire Archæological Society's Journal"¹ these facts are mainly drawn, finds in the early sun-dials of the Teutonic settlers evidence of four different ways of dividing the day-night, viz.:

I. The octaval system, a division of day-night into sixteen and thirty-two parts, customary amongst the Norsemen and Angles.²

II. The duodecimal, or Chaldean division of day-night into twelve portions, still in use in China.

III. The decimal, or division into ten, a system followed by the Jutes and early Danes, as also by the Chinese in the time of Confucius, and even now amongst the Hindus.

IV. The twenty-four hour system adopted by the Egyptians, Greeks, and Romans.

V. The combination of the Greek and Latin hours with the octaval division.

The octaval system is of very ancient origin. We find in Job, xxiii. 8, 9, allusion made to a man with his face toward the sunrising, looking before, behind, to the right hand and to the left, or, as it is rendered by the Targum, "rising, setting, glowing, hiding," corresponding with the four cardinal points; and the course of day and night was similarly divided into four parts. This the Chaldeans subdivided by three. The four in their hands became twelve; in those of the Egyptians, Greeks, and Romans, twenty-four. But the Northmen—nor they alone, for the same practice has been found to exist in parts of Hindustan and Burmah—held to the four great divisions of time, dividing and subdividing them as follows:

1. Morgan. Sun E.N.E. to E.S.E. = 1 eikt, or tide (old English) = 2 stundr = $4\frac{1}{2}$ a.m. to $7\frac{1}{2}$ a.m.
2. Dagr. Sun E.S.E. to W.S.W. = 3 eikts, or tides = 6 stundr = $7\frac{1}{2}$ a.m. to $4\frac{1}{2}$ p.m.
3. Aftan. Sun W.S.W. to W.N.W. = 1 eikt, or tide = 2 stundr = $4\frac{1}{2}$ p.m. to $7\frac{1}{2}$ p.m.
4. Nott. Sun W.N.W. to E.N.E. = 3 eikts, or tides = 6 stundr = $7\frac{1}{2}$ p.m. to $4\frac{1}{2}$ a.m.

"From the hours allotted to Morgan and Nott, it would seem," says Dr. Haigh, "that this system took its rise in Lat. 42° N., the Caucasian home of the Aryan race, light and darkness being at the summer solstice about fifteen and nine hours respectively."

¹ Vol. v., pt. 17.

² The Mexicans divided their day-night into sixteen parts.

In Iceland and the Faroe Islands the octaval division of time still goes on. Sir Richard Burton in "Ultima Thule," written in 1878, tells us that day-night is divided by the Faroese into eight, and by the Icelanders into nine watches. Seven of these watches have each three hours, and the remaining two an hour and a half. This practically corresponds with the eight tides of the Norsemen (if the subdivision of one portion be allowed for), while the names of three of the divisions agree with those of the olden time. In Iceland the primitive mode of measuring time by the sun's passage over natural objects was practised as late as 1813-14, when Dr. Henderson visited the country. He found that very few persons owned a clock, and that the only dial in use was the natural horizon of each township, divided into eight equal parts by mountain peaks, when such were situated conveniently, and by



CASTLEBERG, SETTLE.

pyramids of stones where natural marks were wanting. These marks, natural or artificial, had been fixed by the first colonists, and the latter had been renewed and kept in repair from generation to generation. Twelve years before Dr. Henderson's journey, an indefatigable antiquarian wanderer, Arentz, visited the district of Sondfjord in Norway, and has left a record of the eight tides of day-night which were in use amongst the people there, and of the regulation thereof by marks on hill and valley, so accurate that midday was seldom at variance with clock time.¹

A device of the same kind existed up to the end of the eighteenth century at Settle in Yorkshire. A hill called Castleberg, which rises at

¹ A natural sun-dial is said to be seen on the shores of the Ægean Sea, where the shadow of a mountain on the mainland touches certain islands, each in their turn, thereby marking different periods of the day.

the back of the town, was crowned by a pile of rock which cast a shadow upon large slabs of stone placed at regular intervals and marked with Roman numerals, telling the hour of the day from eight to twelve. These stones have long since disappeared.¹

The stone circle at Wallsend, co. Durham, has been thought to show the twelve-hour division of night and day. A Roman altar thrown on its side served as a base for the gnomon, and stood in the midst of a circle of twelve stones, each 12 inches high and 9 inches deep. Twelve rudely-cut lines radiated from the centre of the altar, beneath which Roman coins were found buried. Evidently this money was still in circulation when the dial was made. It is thought to have been the work of early Danish settlers, and must have been as incorrect a time-teller as was the obelisk which the Emperor Augustus set up in Rome. It will be remembered that this division of night and day into twelve was followed by Alfred the Great in his contrivance for measuring time by the burning of candles.

If the early dials which remain to us on the walls of Saxon or Norman churches, and on ancient upright gravestones in Ireland, are really evidences of the octaval time division, and not, as some have thought, of the canonical hours, we may see that it lasted to the Conquest, or even beyond the Conquest. The Kirkdale dial, the most perfect example, belongs to the reign of Edward the Confessor. That on the cross at Bewcastle, which combines the octaval with the Roman twenty-four hour division, is much earlier, and belongs to the first year of King Egfrith, A.D. 670.

To the monasteries sun-dials must—before the invention of clocks, which were early adopted by the monks—have been almost indispensable. People who lived in remote places would, no doubt, have their own primitive ways of telling or guessing the time. It is, indeed, only

¹ The illustration is reproduced from a copy of a pen-and-ink sketch in the Warburton Collection of MSS. in the British Museum. It was probably drawn by one of the brothers Buck, other sketches in the same volume and apparently by the same hand, being signed "S. Buck." It does not appear to have been engraved, and is most likely to have been drawn in the early part of the eighteenth century. Samuel Buck died in 1779, aged eighty-five; his brother Nathaniel died some years earlier. In 1778 a large engraving of the "very extraordinary sun-dial, facing the Market-place at Settle, in the West Riding of Yorkshire, drawn and engraved by S. Buck," was published, and has been photographed and printed by Mr. Eckroyd Smith in his "Illustrations of Old Yorkshire." He adds that the late Dean Howson, who was educated at Giggleswick School, and died in 1885, aged sixty-nine, remembered old people who had heard of the dial, if they had not actually seen it. The hour slabs had probably been destroyed before Mr. Buck's engraving was published.

the other day that a farmer's wife on the Yorkshire moors was wont to set her clock according to the moment when the sunlight struck along a groove in the stone floor just within the house door, and at an angle with the threshold. But men who were fortunate enough to dwell near a church or a monastery, would consult the shadow on the dial, and this would also regulate the bell which the "tide shower" rang out from time to time to tell how the hours passed away; a sound still familiar to those who live beside some of the older parish churches where the custom of ringing a bell at six in the morning, at noon, and at curfew is still kept up.

From the latest Saxon dial to the earliest dated specimen on which time is measured according to the system of twenty-four equal hours, there is a wide interval. But the gap may be nearly filled from historical records. We are told that in the twelfth century sun-dials were commonly placed beside the public roads for the benefit of wayfarers. The dial on the south side of the minster of Freiburg-in-Breisgau is thought to belong to the end of the thirteenth or beginning of the fourteenth century; and a little cube of dials found at Ivychurch in Wiltshire has been assigned to the latter period. Perhaps the earliest distinct notice of a fourteenth-century sun-dial belongs to Arbroath, where, in 1303, Abbot John—a "pious abbot of Aberbrothock"—granted to Galfrid Runcald a parcel of land . . . "lying in the street of Cowgate, between the sun-dial which was made by Adam the son of Martin on the one part, and the lands of Lawrence Cryn on the other."¹

In the middle of the fifteenth century, and even earlier, we find that portable cylinder dials were commonly used in England. Lydgate, who about the year 1430 wrote the "Storie of Thebes, an additional Canterbury Tale," which was printed with Chaucer's Works in 1651, writes as if a dial were part of an ordinary traveller's equipment:

"Passed y^e thrope of Boughton on the Blee;
By my kalendar I gan anon to see,
Through the sonne that full clear gan shine,
Of the clock that it drew to nine."

and Warton adds the note on "Kalendar": "Chilindre, a cylinder, a kind of pocket sun-dial." In 1520 Hormann notices in his "Vulgaria" two kinds of portable dials: "There be journey rings, and instruments like a hanging pillar, with a tunge hanging out, to know the tyme of day."

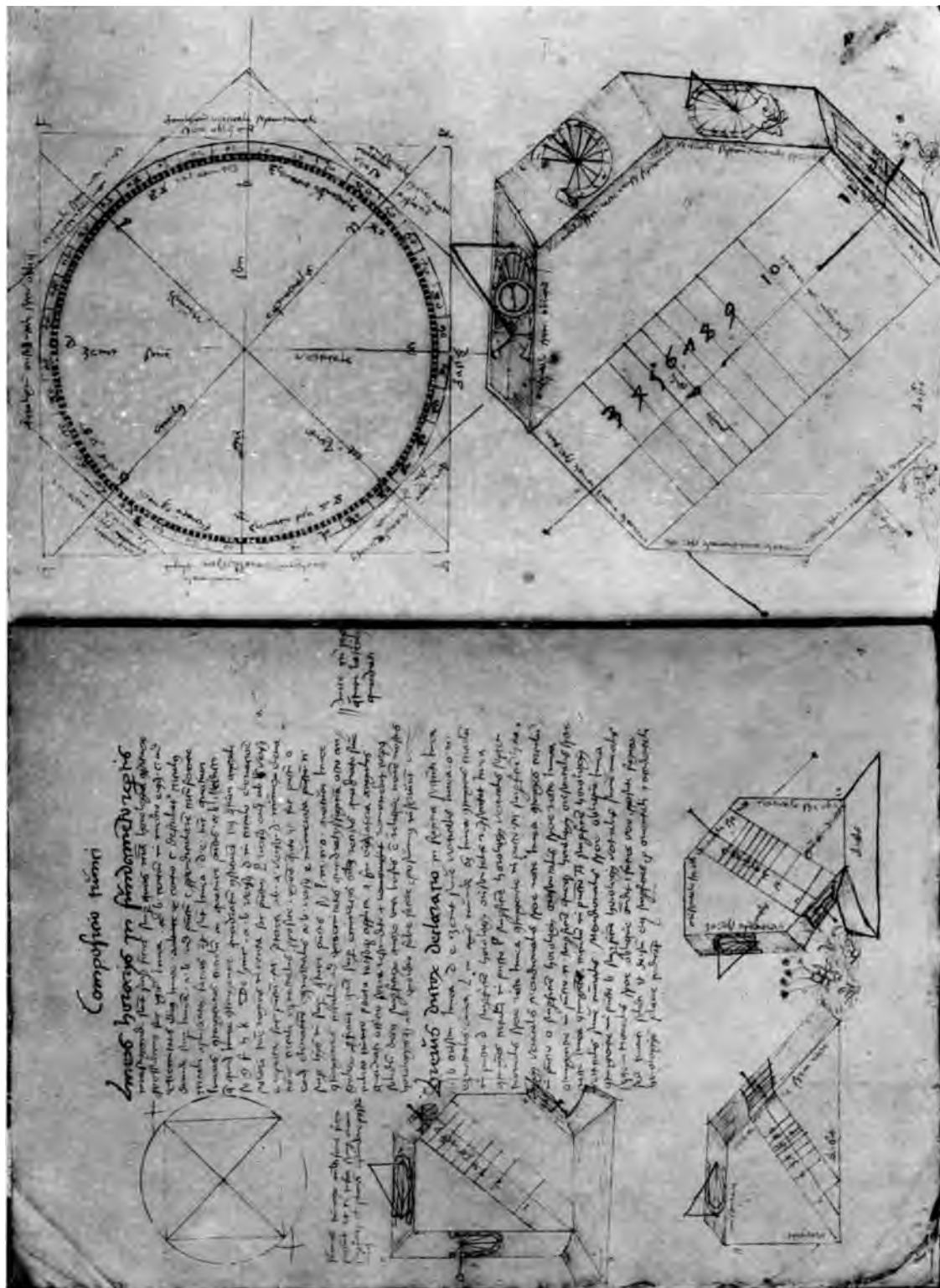
The wonderful revival of learning in the fifteenth century brought

¹ "Arbroath and its Abbey," by David Miller.

Greek and Arabian science within the compass of European knowledge. Equal hours were then in general use, and the study of gnomonics was resumed. The mathematician Purbachius, or George of Peurbach, a Bavarian, who died in 1462 at a comparatively early age, gave great attention to this branch of learning, as did his better known pupil, Regiomontanus (so called from his birthplace, Königsberg in Bavaria, but otherwise known as Johann Müller), who was considered to be the greatest astronomer and mathematician of his time. Regiomontanus set up a printing press at Nuremberg, and also made astronomical instruments, with the help of a worthy and studious citizen, Bernard Walther, and it was no doubt owing to these two men that the making of sun-dials became one of the special industries of Nuremberg. Regiomontanus died in 1476 in Rome, where he had gone to assist Pope Sixtus IV. to reform the Calendar, but for a century or more Nuremberg continued to be the home of a succession of scientific men.

Scultetus (Bartholomew Schulz), in the dedicatory epistle prefixed to his "Gnomonice de Solaris" (1572), gives a sketch of the history of gnomonics, and says that Regiomontanus was followed by Stabius, an Austrian, and Andreas Stiborius, a Bavarian and professor at Vienna, who invented new forms of dials, and gave directions for making spherical, concave, columnar, pyramidal, ring dials, and others. The works of these two writers have never been printed, but those of others named by Scultetus may still be met with, as the four books of "De Solaribus Horologiis" by Orontius Finæus (Oronce Finé), the works of Sebastian Münster, Peter Apian (mathematician to Charles V. and professor at Ingoldstadt), Gemma Frisius, Georgius Hartmann, Andreas Schöner of Nuremberg, and Johannes Hommelius of Meiningen, who died in 1562, a hundred years after Purbachius. "By these and others the science of gnomonics had," says Scultetus, "in the course of a century, been brought to a great perfection."

In fact, we find that in the sixteenth century the erection of sun-dials went on fast. In Scotland one was placed on the newly-founded King's College in Aberdeen soon after the year 1500. In England we have recorded in the book of disbursements of Sir Thomas Lucas, solicitor-general to Henry VII., that he paid xx^d for "a dial set on my bruge," at Little Saxham in Suffolk in 1505; and in France the church of Rouelles, Normandy, still shows a two-faced dial of the same period, with the hours marked in Arabic numerals, underneath a beautiful projecting window. But the presence of a German mathematician at Oxford in the reign of Henry VIII. had probably the most important



FACSIMILE OF A PAGE FROM KRATZER'S MS. "DE HOROLOGIS."

influence in our own country, for to him can be traced one of the earliest of those detached or monumental dials which afterwards took such curious and beautiful forms, especially in Scotland, and were worked out with all sorts of ingenious arrangements of lines and hollows.

It was in the year 1517 that Nicholas Kratzer, or Kratcher, a Bavarian, was admitted at the age of thirty to the new college of Corpus Christi at Oxford, founded by Bishop Fox. His name is on the list of lecturers appointed by Cardinal Wolsey, and he lectured on astronomy and mathematics. Tunstall, writing in 1520, calls Kratzer the "deviser of the King's horologies." He became a fellow of Corpus, and while at Oxford he constructed two sun-dials, one for St. Mary's Church, which stood on the churchyard wall till 1744, and another for the college garden. In a MS. work, "De Horologiis," now in the college library, Kratzer says that many of the directions for making dials were taken from an old book in the Carthusian monastery at Auerbach, near Vienna. Kratzer was a man of a merry spirit, and much beloved. When Henry VIII. asked him how it was that after so many years in England he had not learned to speak the language, he is said to have replied frankly: "Pardon, your highness, but how can a man learn English in only thirty years?"

A portrait of Kratzer standing surrounded by mathematical instruments, and holding a polyhedron in his hand, one of Holbein's finest works (*see* frontispiece), is now in the Louvre. Holbein himself was a lover of dials. He has introduced them into his picture of "The Two Ambassadors," possibly with some reference to special times and dates; and into his illustration to the Old Testament in the history of Hezekiah. He also designed an elaborate timekeeper, a clock, clepsydra, and sun-dial combined, for Sir Anthony Denny to present to Henry VIII. as a New Year's gift.

Albert Dürer also made use of the dial in his designs, and, like Holbein, not idly, but with symbolic meaning. In the engraving of the "Melancholia," a dial is on the wall above the hour-glass and near to the bell which tolls the passing day. Dürer may also be counted amongst the writers on dialling, from his reference to the subject in his book on geometry, printed in 1532.

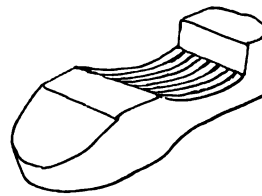
A Spanish painter of the same century, Martin Galindez, also turned his mind to the same pursuits, and constructed sun-dials for the Carthusian convent of Paular, where he died as a monk in 1627. When Mr. Ford travelled in Spain (1830-40), the sun-dial made by Torriano for the Emperor Charles V., and under his supervision, was still standing in the Emperor's private garden at the convent of Yuste.

It is to be hoped that it is there still. Not only were sun-dials thought to be suitable offerings to kings, they were also considered worthy gifts from a prince to his people. The marble dial which projects from the façade of Sta. Maria Novella in Florence bears an inscription to record that it was given by the Grand Duke Cosmo de' Medici to the students of astronomy, 1572. A dial was on the pillar made for Catherine de Medici at Paris by Jean Bullant, for the study of astrology. The date of 1537 on the dial on Schaffhausen Church, of 1579 on the cathedral at Chartres, and 1578 on King's College Chapel, Cambridge, show how sun-dials were needed to meet the uses of the Church as well as the State, and indeed an ardent writer of the period, Andrew Schöner, gave it as his opinion that they could no more be dispensed with than meat and drink.

Directions for a very simple portable dial, viz., the human hand



HAND DIAL.



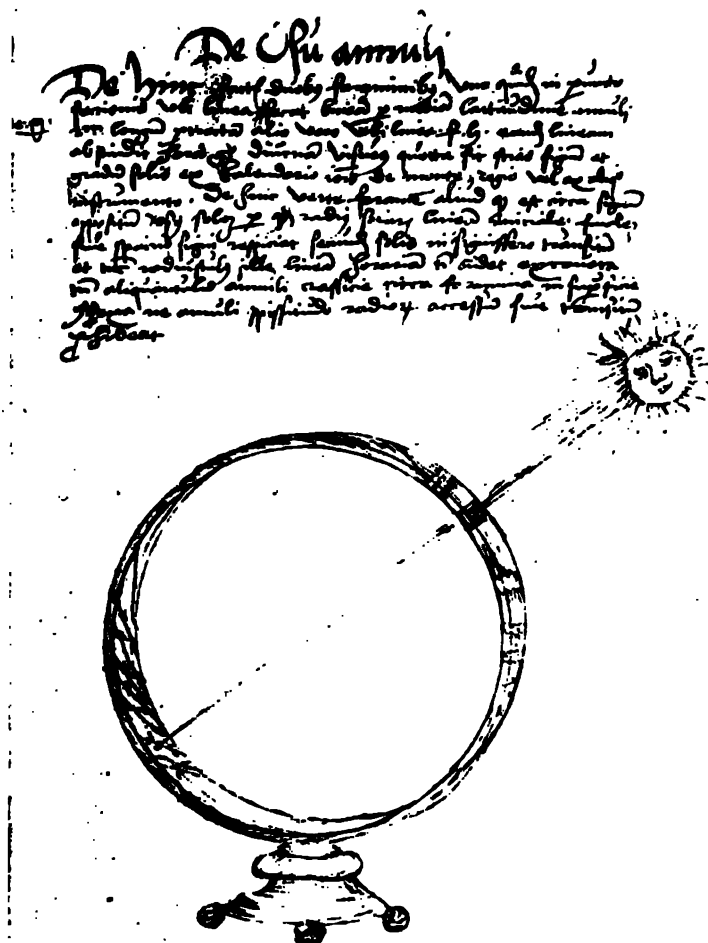
A ZOCCOLO DIAL.

held upright, with a stick placed between the finger and thumb, is given in Nicholas Kratzer's MS. work, as well as in those of other early writers, and the use of this must have continued for some time, for we find it again described in the fifth edition of "The Shepherd's Kalendar, or the Countryman's Companion," printed for J. Hodges at the Looking Glass, on London Bridge, about 1699.

"To tell what is o'clock when the sun shines by one's hand.

"Take a small streight stick of about four inches long, and hold it between the Forer Finger, and the Thumb of the left hand, and turn about towards the Sun till the Shadow of the Ball of the Thumb touch the line of Life, and then the Shadow of the Stick will appear on that part of the Hand, which tells the Right Hour of the Day."

A dial which was almost as easily carried about is described by Muzio Oddi of Urbino, in 1614. This was called the Zoccolo, and the hour lines were drawn on the sole of a wooden shoe, under the instep, the heel serving as gnomon.



FACSIMILE OF A PAGE FROM KRATZER'S MS.
 "DE HOROLOGIS," ON RING-DIALS.

The first English work treating solely of Dialling was published in 1593, and was to a great extent a translation from Witikendus. It appears as a small black-letter quarto, entitled "Horologiographica, the Art of Dialling, teaching an easie and perfect way to make all sorts of dials on any plane pat, howsoever placed, with the drawing of the twelve signes, and houres unequall in them all. At London, Printed by Thomas Orwin, dwelling in Paternoster Row over against the Sign of the Checker." The author, Thomas Fale, writes in his preface that "many have promised (but none as yet performed) to write of this science in our English tongue which hath been published in other languages, as D. Recorde long since, M. Digges, M. Blagrove, with others, who if they would take the paines, I know could doe it with great commendation."

Mr. Blagrove, who had already touched on the subject in his "Mathematical Jewell," seems to have responded to this appeal, for in 1609 he brought out a book on the Art of Dialling. The Latin work of the mathematician Clavius, which had appeared in 1581, is said to have exhausted the subject, but he was followed by many writers, both English and foreign, up to the middle of the eighteenth century. So highly esteemed were the dials set up in the King's Privy Garden at Whitehall, that in 1624 Mr. Edmund Gunter, Professor of Astronomy at Gresham College, wrote a full description of them by the special direction "of the Prince his Highness," and dedicated it to James I. The interest of Charles I. in the subject never flagged. He constantly carried about with him a small silver mathematical ring, a dial, of a construction invented by M. Delamain, which he much valued, and the night before his execution he gave it to his attendant Herbert, in charge for the Duke of York. Probably to his fine taste the beautiful dial at Holyrood House, called Queen Mary's, is due. It was made in 1638, the year in which the King visited Scotland and was crowned in Edinburgh. He is said to have presented it to Queen Henrietta Maria.

The Scottish dials of the seventeenth century form a unique and remarkable series, delightful alike to the artist, the architect, and the mathematician. They were designed with a view to the adornment of the house and garden, as well as for general use and the fancy of the curious.

About the same period, or a little later, people began to make use of the shafts of destroyed crosses, in churchyards and market-places, as supports for sun-dials. The destruction of the crosses was going on in Queen Elizabeth's reign, as is shown by the following entry in the parish books of Prestbury, Lancashire: "1577. Item: for cuttynge the cross in the churchyard, and for charge of one with a certificate

thereof to Manchester, xij^s”; and the practice was continued during the Civil Wars. The old cross of Ote de Tilli at Doncaster, broken down by the Earl of Manchester’s army in 1644, was afterward repaired and crowned with dials; several of the fine crosses in Somersetshire have been treated in like manner, while in many churchyards the pillar which now bears a plain horizontal dial-plate may be readily recognized as the shaft which was allowed to remain after the cutting up or “stumping” of the cross had taken place.

Several entries in the household books, or the churchwarden’s accounts of this period, refer to the cost of putting up dials. In 1620 “two sun-dials were got” for Naworth Castle, after its rebuilding by, Lord William Howard; in 1608 the churchwardens of Hartland, in Devonshire, paid “for the diall on the church wall iii^s”; in 1621 “for a diall for the church 12^s”; while in 1651 those of Maresfield, Sussex, note that the “brazen sundyal” cost “on shilling 1^s.” The Company of Clockmakers, incorporated in 1631, were given jurisdiction not only over clocks and watches, but over dials also, and were authorized to “search for and break up all bad and deceitful works.”

Shakespeare’s allusions to dials will occur to the minds of all of our readers. The portable dial, sometimes thought to have been a ring dial, which Touchstone took from his fob, was no doubt what most men carried for daily use; and to “carve out dials” was the way in which the shepherd boy beguiled his time. Amongst the things which the early emigrants to America took with them were moulds for casting pewter spoons, and moulds for sun-dials. A specimen of one of these is now in a museum in the United States. It is circular, and about 4 inches in diameter.

The pillars, mounted on steps and crowned by a square block of stone with dials on one or more of the faces, erected in the seventeenth century, were often of fine proportions, and adorned the streets or squares where they were placed. Such an one was in 1668 subscribed for by some inhabitants of Covent Garden, and set up in the middle of the square. Another, designed by Inigo Jones, stood in the middle of the New Square at Lincoln’s Inn. Sir John Dethick, Lord Mayor of London in 1655, placed a very handsome pillar with a dial and fountain at Leadenhall corner; and the Seven Dials owes its name to the solid erection which once adorned that dreary and squalid quarter.

Many of the London churches once bore dials. Mr. Collins, writing in 1659, mentions his friend “M^r Thomas Rice, one of the gunners of the Tower, much exercised in the making of dyals in many eminent places in the city.” The subject was pursued with interest by various

writers in the early part of the eighteenth century, and the setting up of dials still went on. Mr. Thomas Wright, a distinguished mathematician, received a gratuity of twenty guineas from the Commissioners and Conservators of the river Wear, for a composition of dials which he invented, setting up the model on the pier at Sunderland in 1733; and a small cylindrical dial was presented by him to the Earl of Pembroke. Perhaps the last work of note on dialling was that of James Fergusson, re-edited by Sir David Brewster, from which Robert Stephenson constructed the dial that may still be seen on his father's old cottage at Killingworth. After that time the subject was mainly left to the encyclopædias.

Dialling was at one time taught by the better class of village schoolmasters. We find that Robert Burns studied it, together with mensuration and surveying, when he was a lad at school at Kirk Oswald.

The meridian lines traced on the floor of a church to show the hour of apparent noon scarcely fall within our subject, and yet can hardly be left unnoticed. The most celebrated, and perhaps the earliest, is that of St. Petronio, Bologna, 220 feet in length, and traced by Gian Francesco Cassini in 1653. In 1703 one was laid down on the floor of Sta. Maria degli Angeli, Rome. Others may be found in several places on the Continent, as at St. Sulpice in Paris. A meridian line was drawn in the cloister of Durham Cathedral, partly on a south wall and partly on the pavement, in 1829, by Mr. William Lloyd Wharton, of Dryburn, and Mr. Carr, then Head Master of Durham School. The description of this, written some years ago by the late Rev. Temple Chevallier, will serve for all.

"In the upper part of one of the unglazed windows of the cloister, about 10 feet from the floor, a piece of stone is inserted, in which is a circular aperture, about an inch in diameter, with a thin edge. When the sun is near noon, and thus almost directly opposite to this aperture, the light which streams through the aperture forms a luminous image which, when the sun is high, as near midsummer, falls on the pavement, and when the sun is low, as near the winter solstice, falls upon the opposite wall. By observing the time of the first contact of the circular spot of light with the meridian line, and also the time of the last contact, and taking the mean, I have found that the instant of apparent noon can be ascertained within a second of time."

The practice of inscribing mottoes on sun-dials seems to have gone hand in hand with the art of making them since the middle of the sixteenth century. What could be more natural to a scholarly and reflect-

ing mind than to point the moral of passing time in the brief sentence which arouses thought? The very presence of the clock on the church tower teaches us, as it has been said, that "Time is a sacred thing": but the passing of the shadow on the dial is more suggestive and more poetical than the sound of the pendulum, and for upwards of two centuries it has spoken by word as well as by deed to many generations of inquirers.

"With still more joy to thee I turn,
Meet horologe for Bard to love;
Time's sweetest flight from thee I learn,
Whose lore is borrowed from above.

"I love in some sequestered nook
Of antique garden to behold
The page of thy sun-lighted book
Its touching homily unfold;

"On some old terrace wall to greet
Thy form and sight, which never cloys.
'Tis more to thought than drink and meat,
To feeling than Art's costliest toys.

"These seem to track the path of time
By vulgar means which man has given,
Thou—simple, silent, and sublime—
But show'st thy shadowy sign from Heaven!"¹

But time and the changes of weather have dealt hardly with the sun-dials. On public buildings they have been to a great degree superseded by clocks, and dials removed at the "restoration" of a church often have not been replaced. They were frequently painted on wood, and the board has rotted and fallen to pieces; and even when cut in stone, the material, if at all soft, has crumbled away. Many a mark on a church wall shows where a dial has once been, in a place which now knows it no more. Decay has also overtaken the sun-dials, with their graceful inscriptions, which once abounded on the plastered walls of Italian and Provençal villages. The suppression of the monasteries has sealed the fate of others. Many of the mottoes in this book have been copied from convent walls, and have now become obliterated, for the hands which repaired them are gone.

"Tempora mutantur, nos et mutamur in illis!"

There have been many quaint devices connected with dials. For instance, in the garden of Wentworth Castle, near Barnsley, a dial was

¹ Bernard Barton.

formed of box edgings cut into the proper numerals, whilst a clipped yew tree in the centre acted as the gnomon. A similar dial is shown in Loggan's "Views of Cambridge" as in the gardens of Peterhouse College in 1675. Floral dials have also been invented, being composed of flowers that bloomed in succession during the hours of sunshine. These, however, are conceits which hardly come within the compass of our subject.

As clocks were erected in the church towers, or showed their faces in market-places, the vocation of the learned dialler gradually ceased. The old dial may still retain its footing in the quaint yew-treed garden, or may stand conspicuously in the churchyard, but few consult it as an oracle, and it rather lingers superfluously amongst us as a memento of the past. It has, nevertheless, to many minds a touching interest; it has drawn forth maxims in the form of mottoes, and it would be like discarding wisdom were we not to preserve and cherish them.

"But if these dials tell us after all
We are but shadows on life's sunny wall,
They not less point us with a hope as bright
To that good land above where all is light."¹

In spite, however, of the decay and destruction of older examples, the day of the sun-dial is not yet done. Many new ones have been set up within the last few years. Horizontal dials, with their graceful pedestals, are still erected in gardens, and vertical ones on country houses, and occasionally on a school or public building. The making of portable dials at Birmingham, and their exportation, still goes on,² and Messrs. Barker of Clerkenwell Road inform us that a self-adjusting dial, which packs into small compass and can be fixed to suit any latitude, is made expressly for the use of explorers and travellers, and that one of this kind was carried by Dr. Livingstone through Africa. At the Horological Exhibition held at Berlin in 1899 Professor Reuleaux showed an equatorial dial of his own construction, which was said to mark every five minutes of time, and a dial which gives mean time is now exhibited in the Victoria and Albert Museum. It was invented by Major-General Oliver, R.A., but is not the first of its kind, as the Gottingen Museum has a mean-time dial of more ancient date. Both in France and Germany plain and easy works on dialling have been published within the last half century.

¹ "Lines on a Collection of Sundial Mottoes," by H. V. Tebbs.

² Ring dials are still used by the country folk in the Italian Tyrol. The writer bought one at Primiero in 1888.

Howard the philanthropist is said to have thus spoken on his deathbed: "There is a spot near the village of Dauphigny where I should like to be buried. Suffer no pomp to be used at my funeral, no monument to mark the spot where I am laid, but put me quietly in the earth, place a sun-dial over my grave, and let me be forgotten." Sir William Temple ordered that his heart should be placed in a silver case and deposited under the sun-dial in his garden at Moor Park. So tender have been the uses to which the dial has been applied, so striking is the thought that the eyes of succeeding generations look to its time-telling face only to read their own *memento mori*, that we are ready to fall into David Copperfield's vein of meditation, as we see it ever cheerfully return with sunlight to the performance of its duties, and ask, "Is the sun-dial glad, I wonder, that it can tell the time again?"

CHAPTER II

ANTIQUE DIALS

"*Brutus*. Did Cicero say aught?

Casca.

Ay, he spoke Greek."

Julius Cæsar.

EVERY writer on the horology of the ancients begins by quoting Vitruvius, who enumerates thirteen different kinds of dials, and gives the names of some of their inventors. Several specimens of these dials have been found during the last hundred and fifty years amongst the ruins of ancient buildings, though it is not yet possible to identify all that are mentioned by Vitruvius. Those types which are known can, however, be classified,¹ and Professor Rayet, from whose admirably lucid paper we are tempted to quote largely, arranges them in three groups:

I. Spherical.

II. Conical.

III. Plane.

I. *Spherical*.—This is the simplest and most ancient form of all, the same that is mentioned by Alciphron, and it originated with the astronomical school which flourished on the shores of Asia Minor in the fourth century B.C. In the centre of a hollow hemisphere there was placed an upright rod, pointing to the zenith. As the sun rose above the horizon its rays touched the point of this rod, the shadow of which would, as the day wore on, trace, in a reverse course, the apparent movement of the sun. If the line followed by the shadow were then divided into twelve parts, the result would be a dial which marked the temporary hours of the day. If the same division were repeated at those seasons when the sun was at its highest, and the hour lines were then drawn through these divisions, the temporary or unequal hours for every day in the year would be ascertained.

The spherical dials may be subdivided into two classes :

¹ Prof. G. Rayet, "Sur les cadrans coniques," "Annales de Chimie et de la Physique," 5ième S., t. vi., 1875.

1. The *σκάφη*, or hemispherium.
2. The hemicycle.

1. The hemispherium is thought to have been the first form of dial, such as has just been described—a hollow hemisphere with a horizontal base, and a vertical style in the centre. This tallies with the account given by Apion of the gnomon and boat-shaped cavity used by the Egyptians; but, so far as we are aware, no specimen remains of this form of the antique dial.

2. The hemicycle, attributed to Berosus, was hollowed out of a rectangular block of stone or marble, and the front or south face was cut away from above at an inclination parallel with the plane of the equator. Thus the useless part of the hemisphere was taken away, and the inclination of the dial would correspond with the latitude of the place for which it had been constructed.

There were usually eleven hour lines, which divided the daytime into twelve hours, and these, in most of the dials which have been recovered, are crossed by three parallel arcs, which mark the equinox and the summer and winter solstices.

The style was horizontal, and projected as far as the line along which the shadow would pass at the season of the equinox. At midsummer the shadow, having reached the outer arc, would begin to recede, and by midwinter it would have dwindled to its shortest measure, so as to pass along the line of a brief day made up, literally, of "small hours." The position of the style and the curve of the hollow, together with the more vertical or more oblique position of the sun, effected the shortening of the shadow in winter and the lengthening of it in summer. When the angle at which the front face was sloped did not correspond (as sometimes happened) with the latitude, a plane could be drawn through the arc of the summer solstice, and the number of degrees by which this exceeded a right angle could be added to the angle of inclination, in order to find the correct latitude.

In several specimens of this dial the concavity is only a slight one, so slight indeed that it was urged by M. Delambre that the dial could not, with accuracy, be called a hemicycle. Nevertheless, it has kept the name. Our illustration is taken from a dial found at Athens, near the ancient academy, and placed, in 1826, in the museum at Leyden. It was sketched by Mr. J. Bytel. The dial is of white marble, and is 23 centimètres high and 27 wide.

The first of these antique specimens was brought to light by the excavators of the eighteenth century, being found at Tusculum in 1741. It produced quite a literature of its own. The great dial-making

period had not wholly passed away, and the discovery of this relic attracted the attention of antiquaries, astronomers, and mathematicians, and, indeed, of all who studied the life and manners of the ancient world. The Jesuit Father Zuzzeri,¹ who was at great pains to show that the villa where it was found might very well have been Cicero's, worked out the calculations and explained the construction of the dial. Other writers on the same subject followed, and the Tusculan specimen has ever since been quoted as the standing example of the hemicycle of Berosus. Imagination longed to see in it the very sun-dial that Cicero sent to Tiro, but this is one of the matters which can only be left to the imagination. Later archæologists have assigned the ruined villa to



GREEK DIAL. LEYDEN MUSEUM.

Tiberius. The dial resembled the specimen which is figured above. It was of Travertine marble, hollowed and engraved in the manner just described. The Kircher museum, in which it was placed, was afterwards transferred to the Collegio Romano, where the dial was seen by Mr. Burn in 1870.² It may possibly be there still, but recent inquirers failed to find it, and no one seems to know what has become of it. Several other specimens have been disinterred near Rome. One, found in 1751 on the Via Flamminia, near Castelnuovo, is now in the museum of the Capitol. Pope Benedict XIV. had the gnomon refixed, and placed the dial on a window-sill, where it still shows the time according to the temporary hours. Another, found at Città Lavinia in 1891, was presented by Lord Savile to the British Museum.

There is an interesting inscribed dial of the same class in the British

¹ Zuzzeri, "Di un antica villa scoperta sul dosso del Tuscolo," Venezia, 1746; Bosovich, "Giornale dei Letterati," 1746; "Archæologia," x.

² "Rome and the Campagna," 1873.

Museum, and this was found in 1852 near Alexandria, at the base of Cleopatra's Needle. It probably belongs to the Roman period. The dial is hollowed out of a block of stone 16½ inches high, 17 inches wide, and 11 inches deep. The corners have been broken off, but most of the hour lines can be plainly seen, with the Greek letters ΑΒΓΔΕΕΖΗΘΙ, which number them, thus recalling to mind the epigram already quoted. The inclination of the face of the block seems to correspond with the latitude of Alexandria, and the base is cut in six small sloping steps.

A similar specimen in white marble was found at Aphrodisias in the Valley of the Meander in 1876, during the making of a railway, and



GREEK DIAL. BRITISH MUSEUM.

photographs of it were shown at a meeting of the Society of Antiquaries in 1877. The hours were numbered in Greek letters, and on the pedestal was a Greek inscription stating that the dial was dedicated to Marcus Aurelius Antoninus. It had probably belonged to the Temple of Aphrodite.

There is in the basement room of the British Museum a handsome marble dial of the same class, measuring 21 inches in height, 18 inches in width at the top and 14 inches at the base. It is hollowed to a greater depth than the Alexandrian dial, and lies more open to the sun. The back is globular, and the base slopes slightly forward between two lions' heads of a debased type, which support the dial, each resting upon a single foot. It is not known where the dial came from.

The excavations at Aquileia, once an important Roman city, pro-

duced four specimens, two of which are now in the Imperial Art-history Museum in Vienna. One of these was cut out of a block of grey limestone, measuring $10 \times 16\frac{1}{2} \times 15$, and the hollow has a maximum depth of $9\frac{1}{2}$ inches. Another is, with its pedestal, cut out of a block about 38 inches high, the pedestal being ornamented with sculptured acanthus leaves and other designs. There could not have been more than seven hour lines, and no place for the gnomon is visible, but the upper edges of the stone are broken off. Baron v. Ritter Zahony had, in 1880, in his collection at Monastero, near Aquileia, a less ornamented dial of the same kind, calculated for the latitude of that place, and showing the time from 8 a.m. to 4 p.m., the hollow being divided by nine lines into ten hour spaces. A small fragment of a similar dial was found at Schloss Buttrio, near Udine; it was mounted on a limestone pedestal, on which a half-draped female figure was sculptured. This was, in 1880, in the collection of Count Toppo.¹

It would serve no good purpose to enumerate all the known hemicycles of Berosus which have been found in Greece, Asia Minor, and Italy, and placed in the various European museums. Athens, Rome, Naples, Paris, Berlin, Constantinople, each have their examples, and no doubt others have passed into private collections. At the time of discovery several of them were described in the antiquarian publications of the day. Antonini gives engravings of those which had been found in his day near Rome, Tivoli, Vejo, Velletri, etc.² Some were then in private hands. One was in the Piazza del Corte at Velletri, but that is nearly a hundred years ago, and whether it is there still we cannot say.

As a rule these dials are very plain in appearance, except for the occasional decoration of lions' paws as supports. There is, however, one in the museum at Berlin, brought from Athens, which is ornamented with a head of Helios in relief on the base. He is represented with hair floating back like the rays of the sun, a design which has often been reproduced in a rude and clumsy fashion on more modern dials. There is also a head in profile of Athena wearing a Corinthian helmet sculptured on one side of the block, and that of Dionysios with a fillet and ivy wreath on the other. At the back is the ornament of the *Patera*. This block of marble had probably formed part of some building before it was carved into a dial. It is said to be of fairly early date B.C.³ A hemicycle found at Palestrina⁴ is still in the collec-

¹ "Römische Sonnenuhren von Aquileia," Dr. Kenner, 1880.

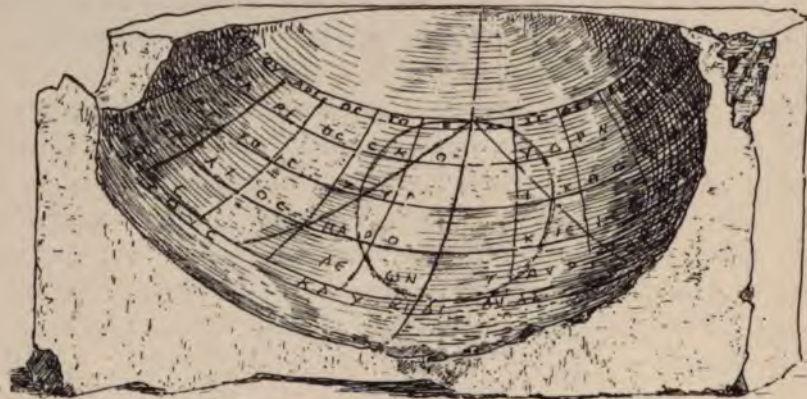
² Antonini, "Varj Ornamenti," vols. iii., iv., 1798.

³ "Archeologische Zeitung," 1880, p. 37.

⁴ Ince Blundell Marbles.

tion of marbles at Ince Blundell in Lancashire, and has a head of Berosus sculptured on its base. The head was not on the dial when the stone was unearthed, but was found near at hand, and evidently belonged to the position where it has been replaced.

Travellers have often noticed a sun-dial at Athens at the foot of the wall of Cimon, to the right of the Choragic monument of Thrasyllus, and near the theatre of Dionysios. Le Roy¹ introduces it into his engraving of the monument, and places it on the point of a rock, where it was noticed by Stuart, and also, in 1801, by Dr. Clarke. The dial is of Pentilic marble, of the hemicycle form, and possibly may have marked the hours for the performances in the Dionysian theatre. At what period it was placed there we cannot tell. The theatre was



GRÆCO-ROMAN DIAL. VATICAN.

finished about B.C. 337, and was afterwards repaired and embellished by the Emperor Hadrian. It is most likely that the dial would belong to the latter period.

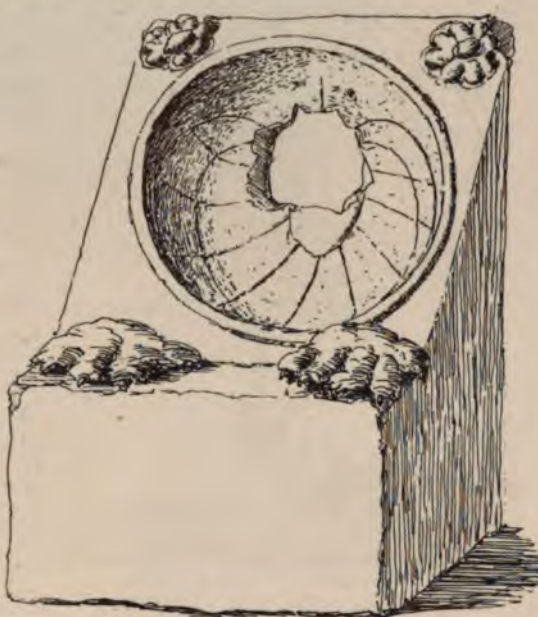
A somewhat different form of hemispherical dial may be seen in the museum of the Vatican. This variety is more truly a hemicycle than those already described, and is deeply hollowed out of a rectangular block. It has no base and no forward inclination, and the style must have been vertical instead of horizontal. The best specimen² (for there are two) was dug up in the Via Palombara on the Esquiline in 1805, and has the usual eleven hour lines crossed by seven arcs, between which the Latin names of the months and the first syllables of those of the signs of the Zodiac are engraved in Greek letters. In the centre is a circle, crossed at the equinoctial by two diagonal lines, which

¹ Le Roy, "Ruines des plus beaux monuments de la Grèce," ii., pl. 2, Paris, 1770.

² Guattani, "Mem. Enc. Roma," 1805.

are continued to the line of the summer solstice. Professor Rayet sees in this arrangement of lines crossing each other the *arachne* or spider's web mentioned by Vitruvius. The dial has been assigned to the period of the Antonines, and also to that of Gallienus. The whole block measures about 8 inches in height, is 20 inches wide, and 10 inches deep.

A still more completely hemispherical dial was brought from Rome in 1841 by Gerhardt, and placed in the Berlin Museum. It is of white marble, 50 centimètres high and 40 centimètres wide. The upper surface is sloped at an angle of 45° , and a complete hemisphere is hollowed out in it, with hour lines drawn. At the top there is a deep groove for the gnomon; the places for the rivets can still be seen, but a hole has been broken below, through the deepest part of the hollow. The front face is ornamented with two lions' paws, and the upper angles with rosettes. The peculiarity of this dial is, that it marks the equinoctial instead of the temporary hours, and consequently is, or was when described by Woepcke¹ in 1843, a unique specimen.



GREEK DIAL. BERLIN.

Whether the lions' feet have any special signification, or are purely ornamental, it would be hard to say. The lion was associated with Hercules, and Hercules with the sun, but so far as the hero appears in connection with sun-dials, it is only through the legend of Atlas, when he bore the earth on his shoulders. An antique statue of Hercules, supporting what some have thought to be an example of the *σκάφη* or hemispherium, was standing in Ravenna in the sixteenth century. Simeoni,² whose "Dernier Voyage en Italie l'an 1557," was published at Lyons in 1558, writes of this: "D'icy j'allay voir la belle place de Rauenne, ou je trouay vne statue de marbre agenouillée, que les habitans appellent *Hercules horarius*, parce qu'il soustient vn quadrant sur ces espauls faict en la manière que s'ensuit."

¹ F. Woepcke, "Diss. Arch. Math.," Berlin, 1843.

² G. Simeoni, "Illus. degli epitaffe e medaglie," 1558.

A like figure of a kneeling Atlas, supporting a segment of a hollow globe marked with hour lines, is shown by Settele,¹ who says it resembles the Atlas in the Farnese collection. It was found at Tor Paterno about 1790, and sent to England. A cast was in the Vatican Museum in 1816.

The dials, mounted on *cippi* or small columns, which are sometimes seen on a sarcophagus or introduced into the background of a mosaic,



ROMAN DIAL FROM TOR PATERNO.

can hardly be called spherical, though they seem to be hollowed more or less deeply; but there is a small specimen in the British Museum which is certainly hemicyclic. It has no forward inclination, and only the hour lines and the equinoctial arc are marked. It is of marble, and about 7 inches high and 4 inches deep. The place where it came from is unknown.

II. *Conical Dials*.—An advance in mathematical science had taken place before conical dials were constructed. The invention is ascribed by Vitruvius to Dionysiodorus of Milo. The dial consists of the concave segment of a circular cone, the axis of the cone lying parallel

to the axis of the earth, and its point exactly coinciding with the point of a horizontal style. All that part of the cone which rose above the plane of the style would be taken away, and on the south side the dial would, as in the case of the hemicycle, be cut off by another plane perpendicular to the axis of the cone, and consequently parallel to the equator. Each arc traversed by the shadow would then be divided into twelve equal parts, and lines drawn through them, and thus the temporary hours would be shown.

No example of this class of dial was known to be in existence until M. Rénan discovered a fragment amongst the ruins of Oum el Awamid in Phœnicia. The archæological mission, of which he was the head, was sent out by Napoleon III. in 1860, during the French occupation of Northern Syria, and amongst the spoils brought back to the

¹ Settele, "Mem. sopra la forma delle Linee," etc., 1816.

museum of the Louvre was this curious sun-dial. Only a portion of it remains, and this shows three hour lines in the hollow surface of a block of marble, the lower face of which is sloped according to the latitude. Professor Woepcke, who recognized it at once as a conical dial, intended to have written a paper upon the subject, but died before this was accomplished. The dial, however, was explained by Colonel Laussedat, who also made a complete model,¹ which now stands in the Louvre beside the Phœnician fragment. Colonel Laussedat points out that the conical was an improvement upon the spherical dial, as the surface of the cone presents an easier surface to work upon. Like the hemisphere, it was hollowed out of a rectangular block of marble, so it is not surprising that, to the casual observer, there seems to be very little difference betwixt the two forms.

The Phœnician fragment bears the remains of an inscription:

"Thy servant Abdosir, son of E——."

It had evidently been dedicated to a god, and no doubt belonged to a temple. Abdosir is a well-known name in Phœnician inscriptions. The stone was found in the ruins of a house, and in the same locality other inscribed stones were discovered.

One of these had belonged to a tomb, and the owner prayed for the protection of Baal-Shemish, lord of the skies, for himself and his family, and for their last resting-place. The houses had evidently been built about a century before Christ, out of the ruins of more ancient buildings. Oum el Awamid (*i.e.*, the "mother of columns"), formerly Medina el Taharan, is now a desert place, one which has "become heaps," in the country to the south-east of Tyre. It was once a flourishing city, and when under Greek rule was called Laodicea, one of the many towns of that name. M. Rénan considered that it was probably destroyed during the wars of the Seleucidæ.

A little further on in the Louvre stands another conical dial hollowed out of a greyish white block of crystalline marble. This



PHŒNICIAN DIAL. LOUVRE.

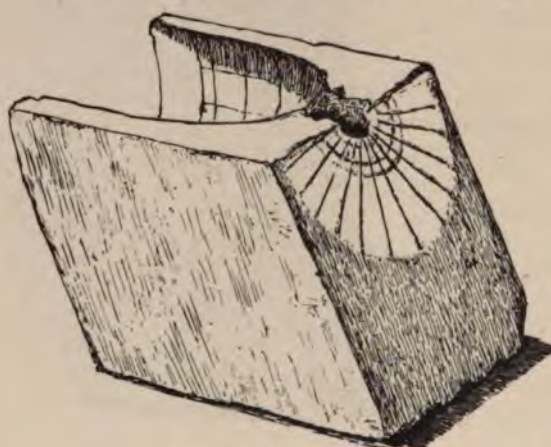
¹ "Mission de Phénécie," 1864, Paris. "Memoire sur un fragment de cadran solaire," Paris, 1872.

was discovered in 1873 by M. O. Rayet near a little town in Caria, Heraclea by Latmos, and stood near the Agora on a step of a hall which had perhaps served for the meetings of the senate. The south face is cut away at an angle of 52° to correspond with the latitude of Heraclea, and on the lower part there is a Greek inscription dedicating the dial to King Ptolemy, probably Ptolemy Philadelphus, an astronomer and patron of astronomers and mathematicians.

ΒΑΣΙΛΕΥΣ ΠΤΟΛΕΜΑΙΩΝΙΑΠΟΛΛ[Ω]ΝΙΟΣ ΑΠΟΛΛΟΔΟΤΟΥ
ΘΕΜΙΣΤΑΓΟΡΑΣ ΜΕΝΙΣΚΟΤΑΛΕΞΑΝΔΡΕΥΣ ΕΠΟΙΕΙ.

[To the King Ptolemy, Apollonios son of Apollodotos
Themistagoras son of Meniscos, citizen of Alexandria has made.]

The inscription is of the Macedonian period. The hour lines



GREEK DIAL. LOUVRE.

in the hollow are crossed by seven arcs. Professor Rayet¹ suggests that this arrangement may correspond with that which he terms the *Arachne* on the spherical dials, and that this dial might belong to the class which Vitruvius calls the *Conarachne*. Possibly Apollonios of Perga, who discovered the theory of conic sections, might have been the inventor.

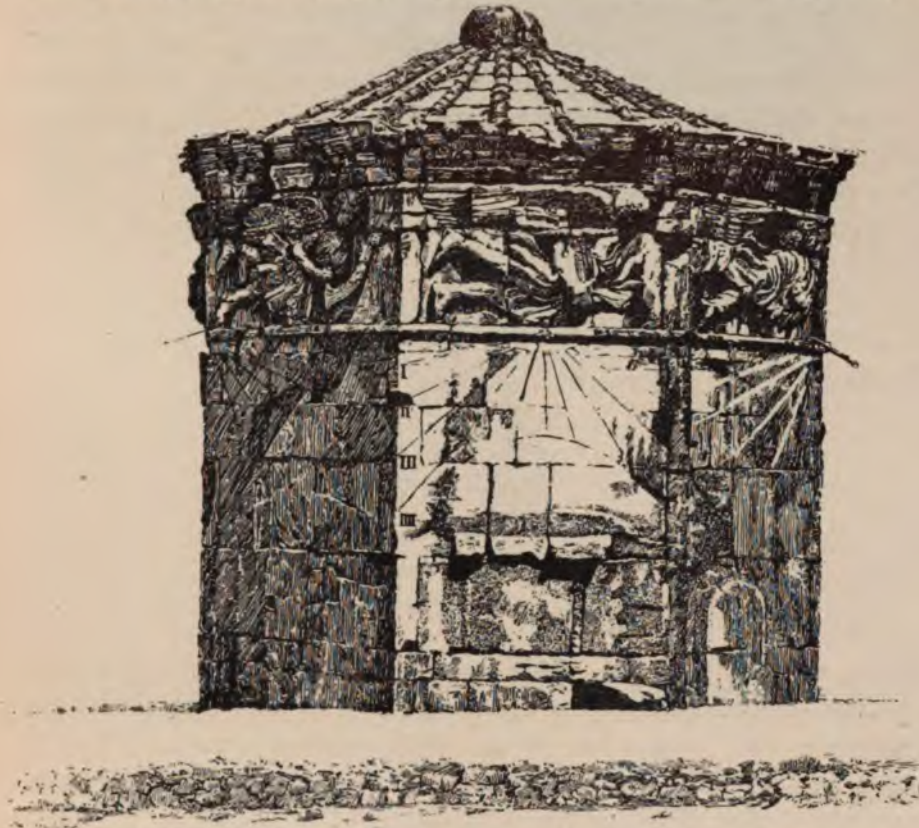
On the north side of the Heracleian block there is a small sundial very slightly hollowed. This would only tell the hours in summer, from March to September. The date of this dial may probably be placed in the early part of the third century B.C.

Professor Rayet, writing in 1875, mentions two conical dials at Athens, one being in the museum, and the other in the ruins of the Acropolis. The first-named has the ornament of the lions' paws. The Naples museum contains five specimens from Pompeii. One of them was found in 1842 in excavating the ruins of a house behind the temple of Fortuna Augusta.

III. *Plane Dials*.—With the aspect of dials drawn on a plane surface, whether vertical or horizontal, we are familiar enough. The dial on the church wall, or the plate on a garden pillar, we know

¹ Sur les cadrans coniques, "Annales de Chimie et de la Physique," 3^{ème} S. vi.

of old, and need no careful description of their appearance or their method. It is only natural that the later products of civilization should be more familiar to us than the earlier. These plane dials seem at first sight to be the simplest, but in reality are not so; for, just as the conical dials were an improvement on the spherical, so do the plane dials show an advance upon the conical ones. Their construction required a wider knowledge of the principles of conic sections. They had become



TOWER OF THE WINDS. ATHENS.

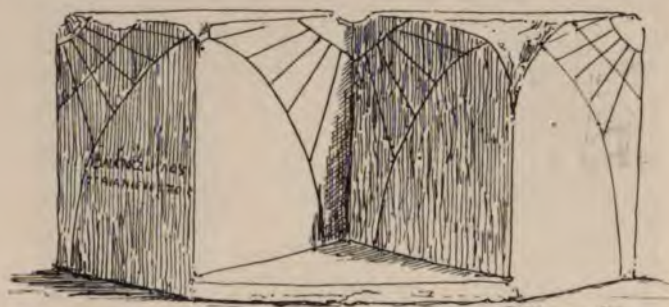
scientific instruments, and their sphere of usefulness was proportionally greater. The spherical and conical dials could only be observed near at hand, but a vertical dial, like a clock, could be seen at a distance.

"Write the vision and make it plain, that he may run that readeth it."

There is a special interest in finding ancient dials still in their original places and doing the work that they were set to do many hundreds of years ago, and this is still the case at Athens. There, as has been said, a classical hemicycle still stands above the ruins of the theatre of Dionysios, though it no longer tells the time, but on the

Tower of the Winds, as it is called, the eight-sided tower built by Andronicus of Cyrrha more than a century before Christ, there are dial lines engraved in the marble, by which, with the aid of the restored gnomons, the Athenians can still ascertain the hour of the day as they were used to do, not perhaps in the time of Andronicus, but in the days of the later empire.

The tower was not built with any view to the dials; they were an after-thought. Within the walls there was a more ancient time-teller, a water-clock, which in the time of Varro had given its name to the tower, and at the top of the conical roof a bronze figure of a Triton held a wand and showed which way the wind blew. These all disappeared long ago. The tower is about 44 feet high, and the eight sides face the cardinal and intermediate points of the compass. Underneath the roof is a frieze, on which are sculptured flying figures repre-



GREEK DIAL. BRITISH MUSEUM.

senting the eight winds, with their names attached. The eight dials are engraved on the walls below the frieze, and, as was ascertained by M. Delambre, the hours are shown with perfect accuracy. It is impossible to say at what date these dials were made. Vitruvius makes no mention of them in his description of the tower. It would seem that they were added after, but perhaps not long after, his time. The Roman numerals which are now painted at the foot of the lines are a modern addition. Professor Rayet considers that these lines, diverging from a common centre, look rather like arrows tossed out of a quiver, and suggests that this may be the type of dial called by Vitruvius the *pharetra*, or quiver of Apollonios, for which name, knowing the inaccuracy of the MS. copyists of Vitruvius, he would fain read Andronicus, and so identify the quiver dials with those on the Tower of the Winds. The professor sees an example of the same type in the fine dials of Phaidros, brought from Athens by Lord Elgin. They are cut in a block of white marble, which is now in the Inscription Room of the

British Museum.¹ These are engraved on four vertical planes placed angularly, and forming the front and sides of the block. They probably stood at the corner of a street, and commanded four ways. One face bears the inscription :

ΦΑΙΔΡΟΣ : ΖΩΙΛΟΥ : ΠΑΙΑΝΙΕΤΣ : ΕΠΟΙΕΙ.

[*Phaidros son of Zoilos a Pæanian made this.*]

The last letter of the lower line is lost owing to the wearing away of the marble. The name of Phaidros, an architect, is found on the steps leading up to the Dionysian theatre, in the restoration of which building he was employed. He is said to have lived in the second or third century A.D. The shape of the letters shows that the dials cannot be earlier than the time of Hadrian.

In the National Museum at Palermo there is also a white marble block with four dials on it. This was brought from the ruins of Tyndaris, one of the most purely Greek settlements in Sicily.

When Dr. Clarke was travelling in Greece in 1801² he visited Orchomenes, a ruined city of Bœotia, and there saw a vertical dial built into the wall of the monastery church called Panágia Kemis. The church stood on the site of a temple of the Graces, and the place is said to have been celebrated in old times for its musical and dramatic contests, which attracted competitors from all parts of Greece. The dial was divided into eleven hour spaces



GREEK DIAL. ORCHOMENES.

by ten lines numbered in Greek letters, and carved in relief. They were enclosed in a semicircle, and in the lower corners were the figures of two birds. From the engraving given in Dodwell's "Greece"³ it would seem that one at least of the birds was a goose, though the resemblance to a duck is rather strong. The goose, it will be remembered, was a sacred bird; indeed, in Egyptian mythology it was out of the egg laid by the celestial goose that the sun was said to break forth, when he rose in the east to pursue his journey through the sky. With the Greeks the goose was sacred to Heres.

The monastery church dated from the ninth century, and was

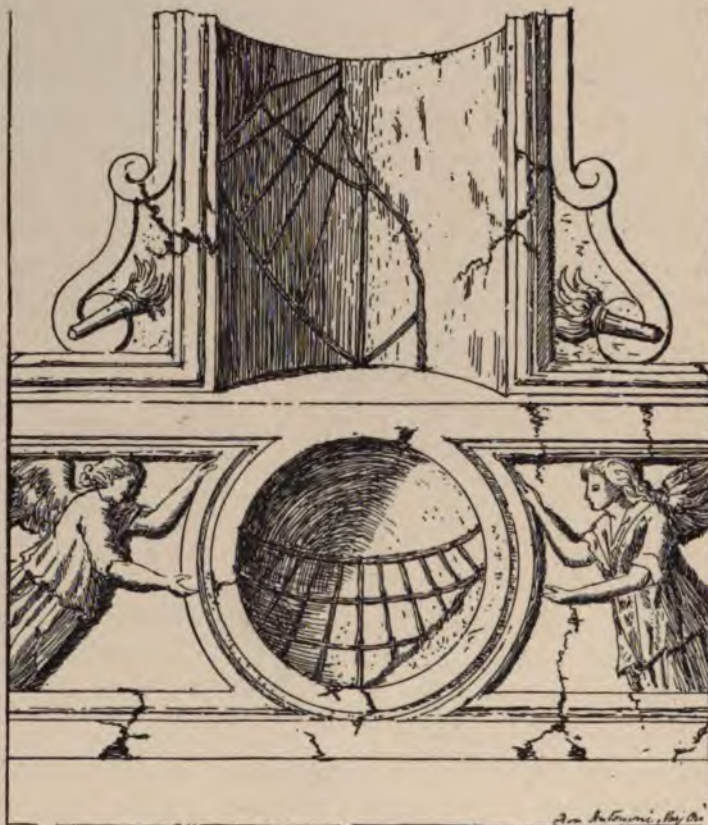
¹ "Museum Marbles," pt. ix.

² "Travels in Greece," by Dr. Clarke, 1818.

³ Vol. i., p. 231.

almost entirely built of stones from the old Greek ruins. It was destroyed by an earthquake in 1889.

A vertical dial of the same type was discovered at Herculaneum. This was divided into twelve hour spaces, the numbering letters being placed below ten of the spaces, and one on each side of the midday line left a blank. The heat of the noontide might suggest that these hours should be given to rest rather than employment, and the inhabit-



ROMAN DIALS. VILLA SCIPIO.

ants of Herculaneum probably spent them in taking their *siesta*. An engraving of this dial in "The Literary Gazette"¹ shows a triangular metal gnomon, but possibly this may have been an addition made by the copyist.

The excavations at the Villa Scipio in the same neighbourhood in 1769 produced a curious pair of dials, standing one above the other, the upper one being vertical, and the arcs crossing the hour lines in an oval

¹ "Lit. Gazette," 1843, p. 284, and "Brit. Cyclopædia," and Antonini.

rather than a circular form. They are traced in a segment of a hollow cylinder. The lower dial was hemispherical, and supported on each side by a flying female figure, probably a winged Hour. These dials were figured by Antonini,¹ and at that time were in a private collection. Simeoni² also mentions a vertical dial in a cylindrical hollow flanked by two plane vertical declining dials. These three were of stone, and stood on the top of an ancient calendar, but what became of them no one knows.

Some few years ago a long-lost sun-dial was brought to light on the south façade of the cathedral at Palestrina. It had been spoken of by Varro as ancient even in his time. The cathedral was known to stand on the site of an ancient Roman building of *opus quadratum*, and in 1886 Signor Cicerchia, perceiving an opening in the masonry which had been covered by modern stonework, obtained the removal of part of the later work, and it was then found that in the *opus quadratum* of the wall there were four incised lines or grooves radiating, two on each side, from a common centre. It was ascertained that the hours of 3, 4, 8, and 9, according to the ancient reckoning, could be readily shown, and the remains of the metal by which the style had been fixed was still in the holes. The dial can now be discerned high up on the wall of the cathedral.³

On the line of the Roman Wall in Northumberland, at Housesteads, once the military station Borcovicium, a stone fragment has been dug up which seems to be half of a semicircular vertical dial. It is quadrant in shape, 10 inches deep and 2 inches thick. There are five distinct rays cut in the surface, springing from a hole in the upper edge, which no doubt held a gnomon; these rays end in a border line that runs along the curved side of the stone, an inch from the margin. One side of the fragment is jagged, as if the semicircle had been broken across the middle; if complete, it would have been divided into eleven spaces.

A Greek dial in the form of a marble disc, once set vertically upon a pedestal and marked with six hour lines, was found in the island of Delos and brought to Paris. M. Delambre described it in 1814,⁴ when it was in the Cabinet des Antiquités. It is probably now in the Louvre.

The Louvre also possesses a specimen of the horizontal dial of the ancients. This is placed in the middle of what is called an astrological

¹ Antonini, "Varj Ornamenti," iii., iv., 1789.

² Simeoni, "Illustrazione degli epitaffe e medaglie," 1558.

³ "Comptes Rendus de l'académie des Ins. et Belles Lettres," 1885, t. xiii.

⁴ "Analyse des travaux de l'Institut," 1814, and "Di un antico orologio solare," Fr. Peter, 1815, p. 36.

altar, found at Gabii near Rome in 1792, by the Scottish painter Gavin Hamilton. The hour lines are engraved on a disc hollowed out of the centre of a round table of Pentilic marble. Around the disc are the heads of the twelve Olympian gods sculptured in relief, and on the border of the table are the twelve signs of the Zodiac, together with the emblems of the gods who presided over the months. The work is said to be Roman.¹

Amongst the dials found at Aquileia,² there was a horizontal one which had been engraved on a stone table made of slabs fastened together, 8 feet 3 inches long, and 2 feet 2 inches wide, with a raised border. The table stood on two round columns, 16 inches each in diameter, one 22 and the other 25 inches high, the front pillar having been more deeply sunk in the ground than the other. Certain flaws which mark the surface show where breakages have been mended, evidently in Roman times, by iron clamps set in lead. The dial is formed by eleven hour lines which spring from the line of the summer solstice, and are continued, after being crossed by the equinoctial line, to that of the winter solstice. Being horizontal, the long shadows of winter would fall on the outer line. The style was placed a little beyond the summer solstice arc. The whole is enclosed in a circle, the border of which is divided into eight parts, and marked with the names of eight winds, viz. : DESOLINVS EVRVS AVSTER AFRICVS FAONIVS AQVILO SEPTENTRIO BOREAS.

The maker's signature, M. ANTISTIVS EVPORVS FECIT, is added. The name of Euporus has frequently been found on the Aquileian remains.

As the names given to the winds are apt to vary, it is worth noticing that Aquilo here stands for the north-west and Boreas for the north-east wind, according to the later custom, and contrary to the arrangement described by Vitruvius and Pliny, with whom Aquilo stands for the north-east wind. The Vatican wind dial (found in 1777 near the Coliseum) also places Aquilo in the north-east, below the Greek word Boreas. Desolinus seems to have been a local name for Solanus, the east wind, and Faonius a corruption of the Latin Favonius, the west. The word Bora is still used for the north-east wind in the neighbourhood of Trieste and all down the coast of the Adriatic. The strangest feature about the dial is that the midday line lies between Eurus and Aquilo, and points south-east and north-west, instead of due north and south.

The dial is drawn at the north end of the table, not in the middle,

¹ Froehner, "Notice sur la sculpture du Louvre," i. 9.

² Kenner, "Römische Sonnenuhren von Aquileia."

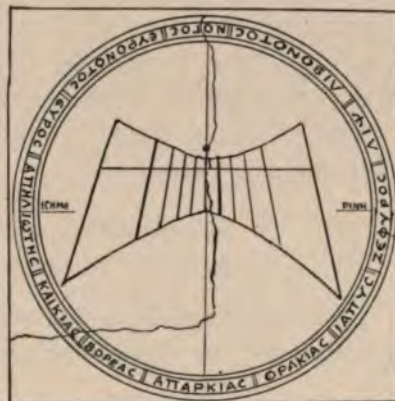
probably out of regard to the position of some neighbouring building. It seems to have been moved to avoid the shadow of a wall above, and set down with some inaccuracy, so that the exact time could no longer have been told.

At the three other sides, and fastened to the table, were three stone benches, the one at the south end having a block of stone higher than the table placed upon it, and in this were two little holes, partly filled with lead, where a weather-cock might have been fixed. The north end of the table was left open to the approach of anyone who wished to know how time went without running the risk of standing in his own light.

This curious relic of Roman times was found about three feet below the surface of the ground in the Marignane, or salt marshes, to the north-west of Aquileia. From other researches which have been made, it appears that a circus formerly stood in this place, built probably towards the end of the time of the Republic, or at the beginning of the Empire. Two tablets, tickets for seats in the theatre, were found very near the dial table, with the names of the owner and the numbers of the seats engraved on them. Aquileia was then a big city and a strong frontier fortress. The fact that it possessed a circus, always a state institution, shows the importance of the place. It was frequently visited by the emperors, beginning with Augustus. The dial, from the character of its inscription, has been assigned to the time of Commodus, and probably served to mark the time for the races and other games in the circus, until Attila swept down upon Italy and left Aquileia a heap of ruins.

Dr. Kenner, to whose pamphlet we owe all our information about the Aquileian discoveries, considers this dial to be an example of the *lacunar* named by Vitruvius, as well as of the *discus in planitia*, and also judged it to be the earliest known amenoscope where the names of the winds are given in Latin.

A fragment of a very similar wind and sun-dial was found in 1814 in the Vigna Cassini, near the Via Appia, Rome.¹ It had been used as a gravestone in an *Arenaria* which formed part of the Catacombs of St. Calixtus. The names of the twelve winds were inscribed



WIND AND SUN DIAL. ROME.

¹ F. Peter, "Di un antica orologio solare," 1815.

on it in Greek, and as it was made of Pentilic marble from quarries which were owned by Herod Atticus, Signor Peter, who wrote on the subject, concluded that it had belonged to Herod's villa, which was little more than half a mile from the place where the dial was found.

Part of another horizontal dial, with a portion of a wind circle traced on the same slab, was found near the mausoleum of Augustus in Rome in 1883. There seem to have been six winds named, but only two, Favonius and Africus, remain. On the back of the slab is the fragment of an inscription, one line of which is placed in a reverse position to the other two:

ΛΟΤΙΩ ΟΣΑΤΩΙ
 LVDERE NESCIS
 ID'OTA RECEDE.¹

A horizontal dial of the same type, with the first syllables of the names of the months in Greek engraved on it, was one of the treasures found at Pompei in 1865. Signor Fiorelli,² in describing it, hazards the conjecture that the form assumed by the lines may correspond with the *pelicinon* of Vitruvius, as they bear some slight resemblance to an axe without the haft. Other specimens, not inscribed, have been discovered in Italy, and it may be that the dial drawn, as it were, on the pages of an open book held by a kneeling cherub or cupid, and engraved by Antonini, was one of this same description.

One might suggest another possible form for the *pelicinon*. Montfaucon, in his great work,³ gives a series of illustrations from a MS. calendar of the time of Constantine. In the plate which shows the month of June, beside the naked figure of a young man, there is a vertical dial which might be described either as hatchet-shaped or as dovetailed, fixed upon a column. The lines written underneath are attributed to Ausonius:

NUDUS MEMBRIS DELUNE SOLARIS RESPICIT HORAS
 JUNIUS, AC PHŒBUS FLECTUS MONSTRAT ITA.

[*June goes naked, and shows us the sun-dial to signify that it is in his days that the sun begins to decline.*]

A cast of a dial of this form is in the Victoria and Albert Museum, South Kensington. The original was found at Yecla in Spain, and is

¹ "Notizie dei Scavi," Roma, 1883.

² Fiorelli, "Giornali dei Scavi," Napoli, 1865.

³ "Supp. au Livre de l'antiquité expliquée," v., p. 20.

now in the Archæological Museum at Madrid. On the base is an inscription in Greek characters, but the language appears to be of the Semitic class. The method of using this dial is uncertain, though it seems to belong to the reflective class. It has been suggested that "at the upper part there was probably an iron limb, to mark the hours after the Roman system, dividing the hours in couples. For use the dial stood facing the north, and a small spherical mirror was placed at a short distance, which reflected the light of the sun upon the dial, and by that means projected the shadow of the needle marking the hours."¹



ANTIQUE DIAL. MADRID.

The Crusaders appear to have destroyed a very remarkable dial at the taking of Constantinople in 1205 by Baldwin, Count of Flanders. Nicetas thus describes it: "In the Hippodrome was placed the brazen eagle, the work of Apollonius Tyjaneus, who, when visiting Byzantium, had been asked for a charm against the venomous bites of the serpents which infested the place. For this purpose he employed all his natural skill, with the devil for his coadjutor, and elevated upon a column a brazen eagle. The wings of this bird were expanded for flight; but a serpent in his talons twining round him, impeded his soaring. The head of the reptile seemed approaching the wings to inflict a deadly bite, but the crooked points of the talons kept him harmless; and instead of struggling with the bird, he was compelled to droop his head, and his breath and his venom expired together. The eagle was looking proudly, and almost crowing out 'Victory!' and for the joy of his eye one might suppose that he intended to transport the dead body of the reptile through the air. Forgetful of his circling spires, and no longer venomous, the serpent remained as a warning to his species, and seemed to bid them betake themselves to their hiding places. But the figure of the eagle was more admirable still, for it served as a dial; the horary divisions of the day were marked by lines inscribed on its wings; these were easily discernible by the skilful observer when the sun's rays were not interrupted by clouds."²

A few specimens of portable dials belonging to classical times have

¹ "Catalogue of the Loan Collection of Scientific Instruments," 1876, S. K. M.

² Clarke's "Travels," vol. vi., p. 434, app. ii., from a MS. in the Bodleian Library.

been found, and show us that the ancients had time-tellers which could be carried about as easily as watches. These will be noticed in another part of this volume.

It would be futile to suppose that by bringing together these scattered notices of the chief known forms of ancient dials anything like a complete record has been obtained. Other types may yet be found as more of the buried treasures of the Roman empire are brought to light. Nor is it unlikely that there are examples even now in provincial museums and private collections of which we are necessarily ignorant. None of us will probably ever attain to a perfect understanding of Vitruvius's thirteen dial forms, but considering the destruction wrought in the last days of the Empire, we may be thankful that so many specimens have been left. Vesuvius, the destroyer, has proved to be in many cases the preserver also. The same cannot be said of the human beings who ravaged Europe in the dark ages. They, indeed, destroyed utterly. What the Arabs, the inheritors of Greek science, may have constructed we can only conjecture. Ruin has overwhelmed their works. For the dials of the Middle Ages we must look to the churches of Christendom, and there we shall find them, though of a rude and simple kind, and chiefly in our own country.

CHAPTER III

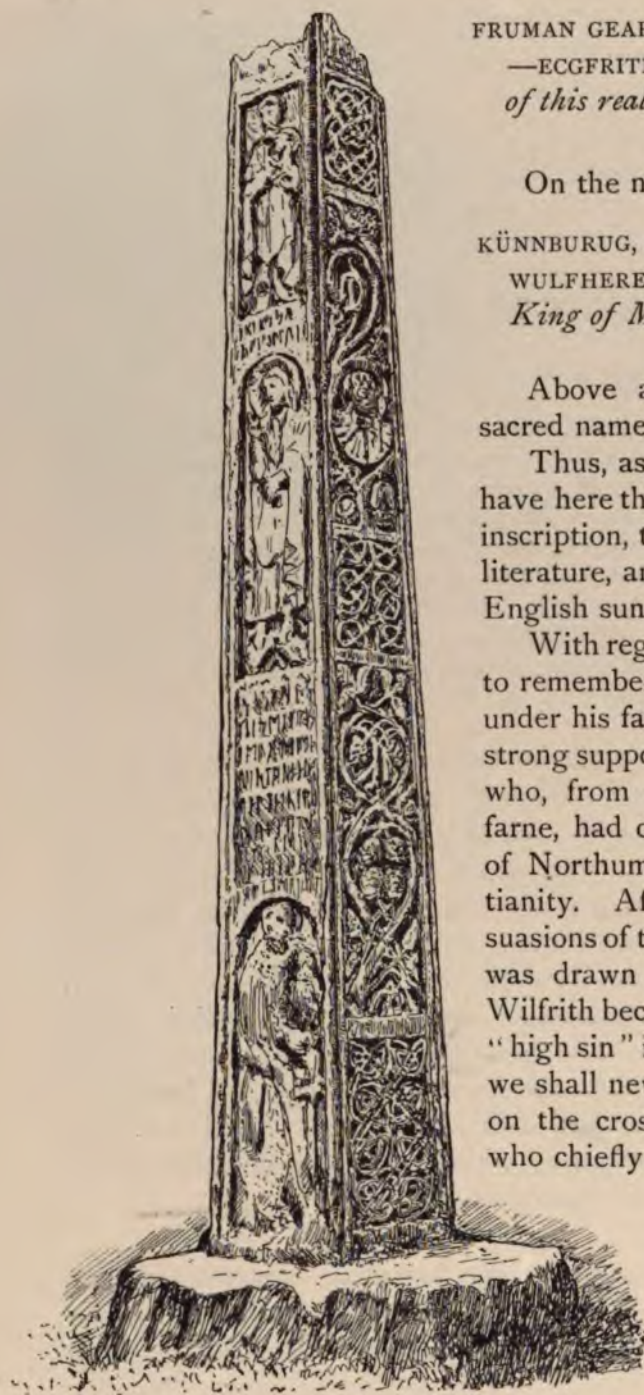
EARLY ENGLISH DIALS

"Theodore arrived at his church the second year after his consecration (A.D. 669). Soon after, he visited all the island, wherever the tribes of the Angles inhabited, for he was willingly entertained and heard by all persons; and everywhere attended and assisted by Hadrian, he taught the right rule of life and the canonical custom of celebrating Easter. This was the first archbishop whom all the English church obeyed. And forasmuch as both of them were well read both in sacred and secular literature, they gathered a crowd of disciples, and there daily flowed from them rivers of knowledge to water the hearts of their hearers; and, together with the books of holy writ, they also taught them the arts of ecclesiastical poetry, *astronomy*, and *arithmetic*."—BEDE, *Eccles. Hist.*, bk. iv., ch. 2.

IN the churchyard of Bewcastle in Cumberland, not far from the Scottish border, there stands a monolith $14\frac{1}{2}$ feet high, the shaft of a fine cross. The head of the cross, which added another $2\frac{1}{2}$ feet to the height, is lost, having been blown down some three centuries ago, when, instead of being replaced, it was sent to Lord William Howard, the warden of the Marches, who was a collector of antiquities, and it cannot now be traced. The sides of the shaft are covered with sculpture, both figures and ornamental designs, in high relief, and of great beauty and excellence. The base and angles are covered with runes, and on the south side, between panels of foliage and interlaced bands, there is a sun-dial. The date of this noble cross shaft is A.D. 670. Its history is told by the inscriptions, which have been deciphered and thus interpreted by the present Bishop of Bristol:

+ THIS SIGBEEN THUN SETTON HWAETRED WOTHGAR OLFWOLTHU AFT
ALCHFRITHU EAN KÜNING EAC OSWIUNG + GEBID HEO SINNA SOWHULA.
[*This thin sign of victory Hwaetred Wothgar Olfwolthu set up
after (in memory of) Alchfrith once king and son of Oswy. Pray for
the high sin of his soul.*]

On the south side is the date:



BEWCASTLE CROSS.

FRUMAN GEAR—KÜNINGES—RICES THAEES
—ECGFRITHU. [*First year of the king
of this realm Ecgfrith.*]

On the north side the names :

KÜNNBURUG, KÜNESWITHA, MÜRCNA KÜNG
WULFHERE. [*Cyniburga, Cyneswitha,
King of Mercians Wulfhere.*]

Above are three crosses, and the
sacred name Gessus = *Jesus*.

Thus, as Bishop Browne tells us, we
have here the earliest English sepulchral
inscription, the earliest piece of English
literature, and, we may add, the earliest
English sun-dial.

With regard to Alchfrith, it is enough
to remember that he was king of Deira
under his father Oswy, and at one time a
strong supporter of the Iona missionaries,
who, from their settlement at Lindis-
farne, had converted the pagan Angles
of Northumbria and Mercia to Chris-
tianity. Afterwards, through the per-
suasions of the king of Wessex, Alchfrith
was drawn to the Roman party, and
Wilfrith became his friend. What special
“high sin” it was that was laid on his soul
we shall never know. The other names
on the cross are those of the princes
who chiefly served the cause of English

Christianity in the seventh
century. Wulfhere was an
actively Christian ruler;
Cyneberga and Cyne-
switha were his sisters; the
former was the widow of
Alchfrith, and both were
benefactresses to the

Church. The name of Cyneswitha was also borne by Wulfhere's

mother, who was probably still living at that time. Oswy is called by Bede "the wise king and worshipper of God," and Alchfrith was his fellow-labourer in the same cause. The beautiful ornamental sculpture on the sides of the shaft stands in close relation with Byzantine art, and suggests the presence of a foreign designer, whose teaching the artistic Angles were quick to assimilate.¹

This indication of Greek influence is of special interest. It will be noticed that the dial on the Bewcastle Cross is drawn in the same semicircular form as those at Borcovicium, Orchomenes, and Herculaneum; and possibly the connection may be traced through the lessons in astronomy given to the Angles by the archbishop. Theodore, who was himself a Greek, was accompanied by Hadrian, a monk whose life had been passed in that part of Italy which was peopled by the descendants of Greeks, saturated with Greek ideas, and at that time the special refuge of cultivated Greeks who had been driven out of their own country. Or if no foreign artist had accompanied the archbishop, there was no man more likely to have invited one to England than the eager Wilfrith, in memory of whose friend and patron this monument was reared, and who was at that time Bishop of Northumbria and in favour with Wulfhere of Mercia.

The dial, which is at some height from the ground, is divided by five principal lines into four spaces, according to the octaval system of the Angles. Two of these lines, viz., those for 9 a.m. and midday, are crossed at the point. The four spaces are subdivided so as to give the twelve-day hours of the Roman and ecclesiastical use. On one side of the dial there is a vertical line which touches the semicircular border at the second afternoon hour. This may be an accident, but the same kind of line is found on the dial in the crypt of Bamburgh church, where it marks a later hour of the day.

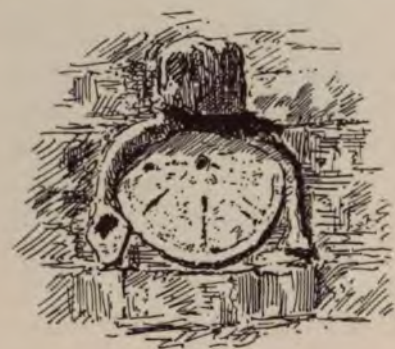
There are a great many early dials on churches, especially in the north of England, but only a few of these can be confidently assigned to a pre-Conquest date. The number of spaces into which they are divided varies unaccountably. The late Dr. Haigh found an explanation, as we have seen, in the different time systems which prevailed amongst the various tribes by whom England was conquered—Jute, Saxon, Angle, Norse, Danish. Other archæologists have considered that the main divisions, and probably the crossed lines, marked the five canonical hours of the day, viz.: Prime, 6 a.m.; Tierce, 9 a.m.; Sext, noon; Nones, 3 p.m.; Vespers, 6 p.m.; the intermediate lines

¹ "The Conversion of the Heptarchy," by the Right Rev. G. F. Browne.

having probably been added for secular uses. The unequal or temporary hours were still in use when these dials were made. Bede states that "the hours were shorter or longer according to the season," and this method of reckoning lasted for several centuries. As the gnomon seems to have been placed horizontally, the dials could not

have told the time with accuracy except at the equinox, but the hour of noon would always be shown, and possibly most country people would, from their own observation of the sun's position, be able to guess to a certain extent at the amount of error in the shadow.

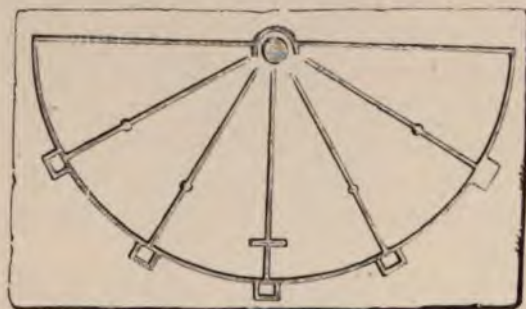
The early dials are almost always semicircular; and circular dials, especially when they are completely rayed, may generally be considered mediæval. In conjecturing the probable date of a dial



ESCOMBE.

the quality of the stone as well as the style of architecture of the building must be taken into consideration. Unless the stone were hard it could not endure exposure to the sun on the south wall of a church, nor the effects of frost, for more than a few centuries. Nor

is the probable date of a building conclusive evidence. Many dials have been cut on church walls long after the church itself was built. Others have been added during a reconstruction a hundred years or so after the original foundation. A few specimens of early date have been built into later walls,



PITTINGTON.

as is shown by the position in which they have ignorantly been placed. When we see a dial stone remaining where it was placed at the first building of the church it is an object of special interest. One of these few is on the pre-Conquest church of Escombe, near Bishop Auckland. It is on the south wall, at some height from the ground, and sheltered by a dripstone. The lines appear to divide the day into four parts, and the gnomon hole remains. There is a semi-circular dial also at Hart Church in the same county. This is divided into eight spaces. Another is built into the chancel wall at Middleton St. George, a

fourth on the Norman church of Pittington. Here the dial shows six divisions of the day, with the midday line crossed. At Hamsterley Church there is a circle with a central hole, but no hour lines; and at Staindrop the broken half of a semicircular dial which seems to have shown four day-divisions. In the choir of St. Cuthbert's, Darlington, a dial stone is built into the wall. This is circular, and divided into eight spaces, with four outer and two inner rings, and a curious kind of cross mark in one of the spaces. There are some remains of a dial on an interior wall of St. Andrew's Church at Dalton-le-dale; only the numerals I to VII are to be seen now, and these are raised in relief upon the plaster, and are said to conceal an older set of figures. The hours would be shown when the sun shone through the south window. A set of numerals, much defaced by age, were also round the head of the tower door at Easington Church.



ST. CUTHBERT'S, DARLINGTON.

From these examples of early church dials which have been noticed in the county of Durham, we pass to Yorkshire, where there are several remarkable specimens; the inscribed stones of the Saxon period being especially valuable.

Perhaps the earliest of these is over the south door of the church of Weaverthorpe, in the East Riding. It is semicircular, and divided into twelve spaces, every alternate line being crossed. The inscription is:

+ IN HONORE : SCE : ANDREAE APOSTOLI : HEREBERTVS WINTONIE : HOC
MONASTERIVM FECIT : IN TEMPORE REGN . . . [*In honour of St. Andrew,
Apostle, Herebert of Winchester made this monastery, in the time of
Regn . . .*]

The incomplete name is thought to be that of Regnald II., a Danish king of Northumbria, to whom King Eadmund of England stood godfather at his confirmation in 943. "The next year," says the Chronicle, "Eadmund subdued all Northumbria and expelled two kings, Anlaf son of Sihtric and Regnald son of Guthforth." From this one would conclude that the dial was set up before 944, but

Dr. Haigh, who read the broken half line above the inscription as "OSCESTULI ARCHEPISCOPI," inferred that Regnald might have returned to his kingdom as Anlaf did, and if so, the date of the dial would be some fifteen or twenty years later. Oscestul, or Oskytul, became Archbishop of York in 956, and was a great restorer and reformer of monasteries. Herebert of Winchester was no doubt the abbot of the restored community, but what buildings he erected were in their turn destroyed by the Normans, for Domesday Book records Weaverthorpe as "waste."

The dial at Kirkdale, in the North Riding, has been frequently



WEAVERTHORPE.

noticed, but its completeness and importance deserve a special description. A great part of the church is of pre-Conquest times, and the dial must have been placed in its present position over the south door when the church was rebuilt in the eleventh century. The whole stone is 7 feet long by nearly 2 feet high, the dial being in the centre; the five greater lines which mark the central points of each tide are crossed, and the spaces between them halved by smaller lines, the whole being enclosed in a half circle, thus dividing the day into eight portions. The index line for the first tide of day, $7\frac{1}{2}$ a.m., is marked by a x.

The inscription is given as interpreted by the Rev. D. H. Haigh, and the contractions supplied in smaller letters.



SAXON DIAL AT KIRKDALE, YORKS.

+ ORM GAMALSVNA BOHTE *sanctus* GREGORIVS MINSTER ÐONNE HIT
WES ÆL TOBROCAN AND TOFALAN AND HE HIT LET MACAN NEWAN
FROM GRVNDE *Christe* AND *sanctus* GREGORIVS IN EADWARD DAGVM
cynING AND in TOSTI DAGVM EORL.

+ THIS IS DAGES SOLMERCA ÆT ILCVM TIDE.

AND HAWARÐ ME WROHTE AND BRAND PRÆpositus.

[*Orm Gamalson bought St. Gregory's minster when it was all utterly broken and fallen, and he it let make anew from ground to Christ and St. Gregory in Eadward (his) days King and in Tosti (his) days Earl.*

This is (the) day's sun marker at every tide.

And Hawarþ me wrought and Brand Provost.]

(Or as others read, *Presbyter.*)

The date of the rebuilding of this monastery may be fixed between 1063, the year in which Orm's father, Gamal Ormson, was treacherously murdered by Earl Tosti, and 1065, when the latter was deposed and banished. It is possible that this Provost (or Prior) Brand is the same who was elected Abbot of Peterborough in 1096, and Hawarþ may have been his superior, and abbot of the newly-restored monastery of Kirkdale. The name of Brand may also have belonged to the district, as there is a dale called Bransdale not many miles away to the north. Tosti, the unworthy brother of King Harold, was made Earl of Northumberland on the death of Siward in 1056, and was slain at the battle of Stamford Bridge in 1066. Orm, the founder of the "minster," is named in Domesday Book as holding the manor of "Chirchebi," Kirkby, under Hugh Fitzbaldric; this is no doubt Kirkby Moorside in the same neighbourhood, and the manors which included Kirkdale, were also in his tenure.

The dial is in good preservation. It is fortunately protected from the weather by a modern porch, on the face of which another sundial is placed, a simple slab of wood, without a motto.

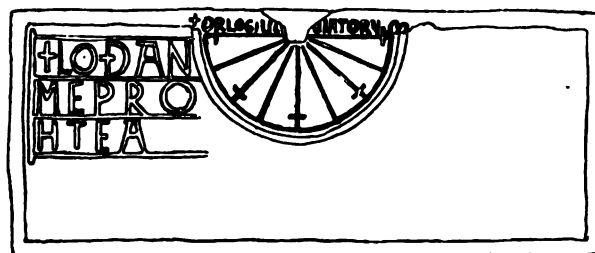
Orm's younger brother Gamal is mentioned in Domesday as the holder of Michel-Edstun, or Great Edstone, two miles from Kirkby Moorside, and on this church there is also a Saxon dial. The arrangement of the hour lines is the same as at Kirkdale, and the stone measures 3 feet 11 inches by 1 foot 7½ inches. Over the semicircular plane are the remains of the words "OROLOGIVM VIATORIVM," or "wayfarers' time-teller," an inscription which is also found on the drawing of a sun-dial in the Irish MS. *Liber St. Isidori*, in the library at Bâle.¹

¹ "Monumental History of the British Church," J. Romilly Allen, S.P.C.K., 1889.

On one side of the dial at Great Edstone there is a half-finished inscription :

LOTHAN ME WROHTE A—— [*Lothan made me.*]

Not many miles away, but farther to the north, amongst the Hambleton hills, in the little church of Old Byland, a dial stone was



GREAT EDSTONE.

found built upside down into the church porch, with an inscription which for a long time perplexed the antiquaries. At Old Byland a band of Cistercian monks settled themselves in the twelfth century, and when after a few years they removed into the more fertile plains,



OLD BYLAND.

and built the beautiful abbey which is now in ruins, they called its name Byland, in remembrance of the home they had left. But the dial must have marked time long before the first Cistercian set foot in Ryedale. It is semicircular and divided into ten spaces. Six of the lines are crossed at the end, viz., the fourth, third, and fifth morning hours, and the first and

third of the afternoon. The inscription :

+ SVMARLEÐAN HVSCARL ME FECIT. [*Sumarlethi's huscarl made me.*]

Dr. Haigh considered to be the work of a Dane, and suggested that the decimal time division of the Jutes might have lingered on in Denmark and been brought to Northumbria by the Danish invaders. The name Sumarlethi is an uncommon one, and the title of huscarl (retainer) is not found in English annals before the reign of Cnut.¹

The dial in the south wall of the nave of Aldbrough Church in

¹ "Yorks. Arch. Journal," v. ("Yorkshire Dials"), Rev. D. H. Haigh.

Holderness is of a different order. It is circular, about $15\frac{1}{2}$ inches in diameter, and divided into eight equal parts, with a central hole for the style. In one of the spaces there is a rather elaborate fylfot. The inscription is on the outer circle, and runs thus :

+ VLF HET ÆRIERAN CYRICE FOR HANVM AND FOR GVNWARA SAVLA.
 [*Ulf bade a rear church for poor (or "for himself,") and for Gunwara (her) soul.*]

It is not unlikely that this was the Ulf Thoraldsen who gave lands to the minster at York, and whose horn is still preserved amongst its treasures. The inscription is a curious example of a mixed dialect, old English and Scandinavian. Aldbrough Church is chiefly built of pebble, and the arches are pointed, but near the foundations the material is hewn stone, and there are Saxon remains in the chancel.



ALDBROUGH.

Dr. Haigh considers that the dial must once have been horizontal, but as it is not the only instance of an early dial inside a church, it is possible that it was so placed originally, and was only intended to catch the rays of the sun at a certain hour on a certain day, perhaps the day of the saint to whom the church was dedicated, or that of Gunwara's death. There is another point worth noting. Anglo-Saxon dials are usually semicircular, this one is completely circular, and exactly resembles those sun-wheels which have been found on stones and relics of the bronze age in Denmark, Ireland, and other parts of Europe, and which are considered to be sun symbols of great antiquity. On the same dial stone we find the fylfot, an Aryan emblem, representing, says Count Goblet d'Alviella, "the sun in its apparent course, the branches being rays in motion." We shall see as we go on that these little wheel dials are frequently found on churches of much later date than Aldbrough. The equal division of the circle into eight parts, though it should indicate the eight tides of the Norsemen, is a useless one for a sun-dial, where the night hours are not needed. Of course a central hole of any depth is conclusive as to the use of part of the stone as a dial, but it does not seem unlikely that the eight-rayed circle may have been a form suggested by the old sun symbol. The fylfot also appears to have been used as a propitiatory symbol with regard to sun and weather. It is often found on church bells which were sounded in times of storm and darkness, as they are still rung during thunder-

storms in Italy. In the days of Ulf Thoraldsen sun worship was still a living form of heathenism. The laws of Cnut, who reigned at the beginning of the eleventh century, forbade such heathen worship as that of the sun and moon, springs of water, storms, etc., and without attributing these pagan practices to the founder of Aldbrough Church, the remains of customs and symbols connected with the nature worship which Christianity absorbed and regenerated, are too numerous for us to wonder at the association of the sun-wheel with a Christian church, either in the time of Harold or for many centuries later.¹



SCHEME OF THE DIAL AT SKELTON, CLEVELAND, WHEN WHOLE.

A few years ago a fragment of another inscribed stone dial was found in the churchyard of Skelton in Cleveland, by Mr. T. M. Fallow.² Part of the semicircle remains, and four hour lines, two of which, viz., midday and 2 p.m., are crossed. Apparently the dial had been divided into twelve hour spaces. Below these lines there are portions of four lines of an inscription in Old Norse or Danish, viz.:

S . LET
NA . GRERA
OC . HWA
A . COMA.

with part of a line of runes down the side. "The runes," writes Bishop Browne, "I read as DIEBEL OK, which Mr. Magnusson says is good Danish—of latish date—for 'devil and.' He tells me that

¹ "Strange Survivals," S. Baring Gould; "Household Tales," S. O. Addy; "La migration des Symboles," Count Goblet d'Alviella.

² "The Reliquary," vi. 2, N.S., and "Yorks. Arch. Journal," xlix.

GRERA is part of the word 'to grow,' and COMA is 'to come' or 'they come.' The words 'devil and' may well be a pious curse on creatures of that kind; perhaps a proverbial saying that when the sun is up evil spirits are down."

The thought of the "powers of darkness" is a familiar one to later ages. So too is the prayer:

"And if the night
Have gathered aught of evil, or concealed,
Disperse it, as now light dispels the dark."

From the style of the inscription this stone appears to belong to the early part of the twelfth century.

A small dial built into the wall of the church at Sinnington, in the same Danish district of the North Riding, has but two words left of its inscription: MERGEN, ÆFERN ("morning, evening"). It is divided into eight, and subdivided into sixteen spaces. The like division occurs on a dial at Lockton near Pickering, in the same neighbourhood, cut on the rounded end of a rough block of stone, and now built into the wall of a cottage.

Of three curious little engraved stones at Kirkburn, one, which was merely a ring cross, has apparently been lost during a "restoration." The two which are left are both circular, with half the circle divided, one into ten and the other into twelve spaces.

At Swillington, in the West Riding, a specimen of the decimal division of time was found on a dial built into a fourteenth-century church. It was circular, and, if used as a horizontal dial, had, writes Dr. Haigh, "been designed to show seven equal tenths of day-night, with the spaces below the equinoctial line equally trithed, and to be used in a latitude where the sun rises at 3.36 a.m., which is almost exactly the case at Swillington." Another circular dial (or sun-wheel), about 10 inches in diameter, and with eight divisions, was discovered on a gatepost at Mouse House on Elmley Moor.¹

Besides these there may be mentioned a fragment of an early dial beside one of the windows of the church at Kirkby Moorside, which has suffered much from having been chiselled all over at the restoration of the church, and this shows the division of the day into ten portions. At Marton-cum-Grafton a roughly executed dial, probably old, has been now built into the vestry wall. East Harlsey Church has some rudely-cut lines on the west side of the south door, and Kirkby Grindalyth an irregularly divided dial, and also a curious

¹ "Yorks. Arch. Journal," v. ("Yorkshire Dials"), Rev. D. H. Haigh.

double circle, marked by two diagonal lines and with a cross where one of these touches the outer circle. There are also three specimens of dials of different dates on Leake Church, and one at Over Silton near Thirsk; another with eleven hour lines on the church porch at Amotherby, one at Hilton near Stokesley, three on the church at Driffeld (one of these is circular, with some very irregular rays), two at Little Driffeld, and one at Croft. Dials, probably mediæval, have also been found on the churches of Bulmer and Lastingham. There is a circular one, with lines showing the hours from 5 a.m. to 7 p.m., on the church porch at Kirkby Malzeard. The remains of twenty-four rays can be traced on an old dial in the south wall of Carnaby Church near Bridlington, and on Speeton Church there is also a rude stone which may possibly have once been a dial.

Canon Fowler, in a contribution to the "Yorkshire Archæological Journal," states that he found a great many specimens in Holderness, and also notices the following: "The church of Monk Fryston, near South Milford, has a dial on a stone worked in as a corner stone of the south aisle, and the circle of which is only about $4\frac{1}{4}$ inches in diameter. Burton Agnes Church has two, one somewhat irregularly divided, and the other extending over three stones, telling the hours from 9 a.m. to 7 p.m., and marked by Roman numerals, some of which have disappeared." At Skipsea there is "a very distinctly-marked dial, the radius about a span, the lower half of the circle divided by thirteen radii into twelve spaces, the fourth and seventh line prolonged and with cross bars, apparently to mark 9 a.m. and noon; the 11 a.m. line lengthened, but without a cross bar. At the same church I saw another similarly divided, not so large nor so deeply cut; another smaller still, unequally divided into twelve portions below the horizontal line, and seven above, and there were traces of three others. At Armthorpe near Doncaster there are two dials close together on the face of an ashlar block, one somewhat larger than the other, and the two circles in contact. Each has a central hole for a gnomon, and radiating lines ending in little holes, disposed somewhat irregularly, but apparently meant to indicate twelve or thirteen day hours. These circular dials may be of any date, but are probably mediæval."¹

Another instance of small holes marking the hours is on a dial on the south buttress of the little church at Bolton Castle in Wensleydale. They have evidently been drilled to correct the irregularity of the hour lines. On the fine fourteenth-century church at Kirklington near

¹ "Yorks. Arch. Journal," vol. ix.

Bedale there is a nearly obliterated dial on a south buttress, and another is near the priest's door at Burneston Church in the same neighbourhood. This one being cut in a soft sandstone is probably not destined to a long existence. A large dial carved on the church wall at Appleton-le-Wiske, and marked with Roman numerals, may not be more than a couple of centuries old, if so much ; and at Harpham Church an east dial cut in the stone shows the hours from 4 to 9 a.m.

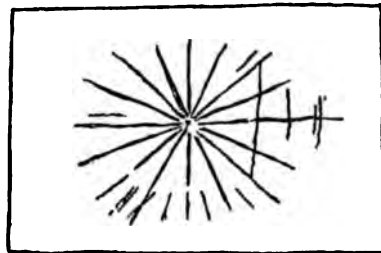
CHAPTER IV

EARLY ENGLISH DIALS—(*continued*)

“How beautiful your presence, how benign,
Servants of God! who not a thought will share
With the vain world; who, outwardly as bare
As winter trees, yield no fallacious sign
That the firm soul is clothed with fruit divine!”

WORDSWORTH, *Ecc. Sketches*, xix.

It is, at any rate, a happy imagination, if it may not be an established fact, which connects one of the early Northumbrian dials with the first and greatest of those northern missionaries of whom Wordsworth wrote. Aidan, to whom above all others the north of England owes its Christianity, has been long overlooked by the descendants of the



BAMBURGH.

people he converted. He was a Celt, and the Teuton is apt to forget what he owes to the Celtic race. Other men entered into his labours, and are remembered in the dedications of many churches. His followers, Cuthbert and Chad, are associated with two cathedrals of fame and beauty. To Aidan there remains only the little church of Bam-

burgh on the Northumbrian coast, opposite Lindisfarne, where he and his monks had their humble monastery. He was at Bamburgh, Bede tells us, at the time “when death separated him from his body, for having a church and a chamber there, he was wont often to go and stay there, and to make excursions to preach in the country round about, which he likewise did at other of the King’s country-seats, having nothing of his own beside his church, and a few fields about it. When he was sick, they set up a tent for him close to the wall at the west end of the church, by which means it happened that he gave up the ghost, leaning against a post that was on the outside to strengthen the wall.

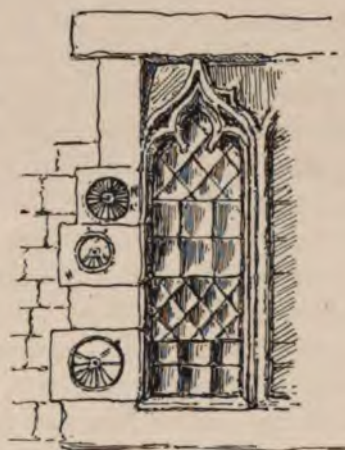
He died in the seventeenth year of his episcopacy, the last day of the month of August," A.D. 651.

The church was shortly afterwards burned down, and must have been rebuilt more than once before the present structure was erected; but it is dedicated to St. Aidan, and in the crypt there is a sun-dial. It measures about 11 inches by 8 inches. There are sixteen divisions of night and day, and some of the day hours are subdivided. The horizontal line is prolonged to the right and crossed twice, and, as at Bewcastle, there is a vertical line connecting the ninth hour of the day with the third of the night, or, as we might say, 3 p.m. and 9 p.m. It was said that on the last day of August, "the day of St. Aidan's rest,"¹ the sun in rising would strike the pointer, but in the present position of the dial this would be impossible. The stone must have been moved from its original place, and no sign of a gnomon hole can now be seen. We owe the tracing from which our sketch is taken to the kindness of the Vicar of Bamburgh.

At Ingram, Northumberland, there is also a dial in the interior of the church. This is on a pillar just against a window in the south aisle, so that it catches the sunlight through the window. The parish church of All Saints, Rothbury, has two dials, one on the south wall of the chancel, and so much worn away that only the four divisions, a double circle round the edge, and the hole for the gnomon, can be traced. The other may be of later date, and is in better condition. It is on a buttress on the south side of the chancel, and is divided into sixteen spaces. There is also an old dial cut in the masonry of the south wall of Morpeth Church.

The valuable notes on some early dials in Cumberland and Westmoreland, given by the late Rev. W. S. Calverley in the last edition of this book, were afterwards expanded by him into a paper published in the "Transactions of the Cumberland Archaeological Society," with sketches from rubbings. The following account is taken from both papers.

At St. Michael's, Isel, near Cockermouth, an ancient little church, there are four dials; three of these are placed one above another in the west jamb of a decorated chancel window on the south side, close



ISEL.

¹ The 31st August was marked in the calendar as "Quies Aidani."

to a priest's doorway. The uppermost, cut in red sandstone, is 5 inches in diameter and has twenty-four division marks; on the east side the letter N is clearly cut, just above the horizontal diameter, and beneath it another N, almost obliterated. This dial may have been used as a horizontal dial before being placed in its present position. Below this dial is another of the same diameter, but only marking the hours betwixt 9 a.m. and 1 p.m., and a nearly obliterated N opposite the 9 o'clock line. The third and lowest dial has the day hours marked from 6 a.m. to 3 p.m., and 6 p.m., and a nail has been driven in at the same point where the upper N appears in the topmost dial. All have holes in the centre, and the lowest one still retains some of the iron of the gnomon. Its diameter is $6\frac{1}{4}$ inches. The fourth dial is cut on the east jamb of the Norman south main entrance, now covered in by a rude porch. Part of the circle is not visible, and some of the rays are scarcely traceable. They appear to have marked the hours between 9 a.m. and 3 p.m. These three last dials Mr. Calverley considered to have been used to mark the canonical hours. He tested them on St. Michael's Day, 1883.

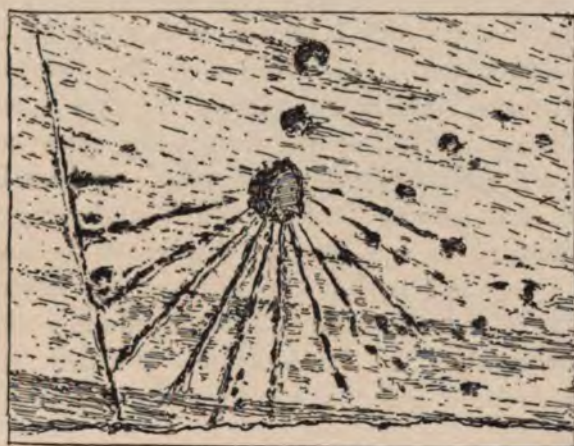
Similar dials to the last-described are found on either side of the Norman south entrance, now covered by an Early English porch, of Dearham Church, near Maryport; also on the east jamb of the west doorway of Newton Arlosh; and on the west side of the Norman south entrance of Milburn Church, Westmoreland; where there are two, placed one above another, the upper one being wrong side up. The alternate rays of the last-named are more deeply cut and longer than the intermediate rays, as though the greater time divisions had here once been subdivided. Beside these two dials is a stone cut in a rude diaper pattern. It would seem as if all these stones had belonged to a former building, and the masons of the Norman period had worked them into the present church. A third and larger dial, measuring 16 inches by 14 inches, is on the south side of the chancel, about 8 feet from the ground. In the inside of Torpenhow Church there is a dial of the same kind as the smaller one at Milburn, discovered when the plaster and whitewash were removed some years ago. The walls of the old church, which dated from before the Norman Conquest, had evidently been pulled down in part in early times, and a south aisle added; and "the building stuff of the original wall used for the south wall of what is now a very ancient aisle, and so it has come to pass that inside the church, between the two square windows of the south aisle, you may see the traces of a dial which was once cut on the outer wall."

Caldbeck Church, Cumberland, has a dial on a stone built into the

south wall of the chancel, near the priest's doorway. It is 7 inches in diameter, the circle deeply cut, and part of the old gnomon remains in the centre, well wedged in with lead and nails. The upper half of the circle is plain, the lower half is divided into sixteen parts, each of the rays being marked by round holes drilled into the stone. The midday line projects beyond the circle, and ends in a cross. "To the right, outside the circle, are four drill marks which remind one of the N on the Isel dials. To the left also may be seen one of these holes, which appears to be of the same date as the dial, and intended for some real purpose. The number of rays and holes is *seventeen*, but one ray is evidently marked beyond the diameter, making the number of divisions in the half circle *sixteen*, and thus bringing us again into contact with the octaval system of time division common among the



CALDBECK.



WEST KIRBY.

Angles. The dial has been removed from some other place, and was put in its present position when the lancet window was restored."

A dial with five rays, marking one morning and three afternoon hours, is on the west capital of the south thirteenth-century doorway of Kirk Oswald Church, and there are five or six other stones in other parts of the church, each marked with two rays, which start from a central hole. It is a question whether these may not be merely mason's

marks. They have been noticed also on Warwickshire churches. A stone with the remains of three rays is on the church at St. Bees. Another small dial has been noticed at Cliburn, and at Newbiggin on the Eden there is a projecting semicircular dial with an iron gnomon, which seems to be placed horizontally and then bent downwards at a right angle, like a hook. If this be a copy of the old Saxon style, it is an interesting discovery.

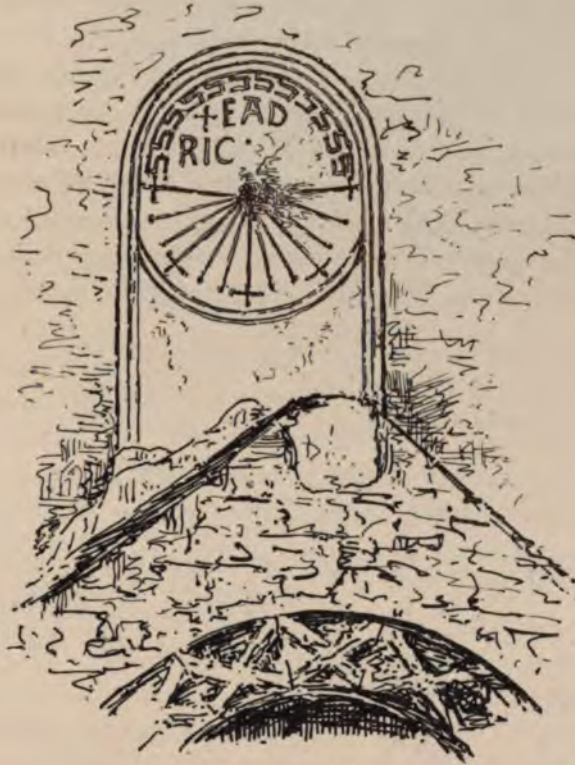
A circular dial with the lower half divided into twelve hour spaces is on the south face of Bolton Church, Westmoreland. The stone is not in its original position. At Beetham in the same county there is a circle with the lower half irregularly rayed. The kindness of Mr. W. G. Collingwood enables us to give a sketch of a dial at St. Bridget's Church, West Kirby, Cheshire. It is on a stone built into the south side of the tower, about 5 feet from the ground, 44 inches long and 15 inches high. The hole is filled with mortar, and the rays, which are indistinct and rudely carved, are about 6 inches in length. The stone is a red sandstone, and the present aisle throws a shadow over the dial till nearly noon.

Passing from the north of England to the south, we find an inscribed Saxon dial at Bishopstone in Sussex. It is over the church porch, the stone rounded at the top and bordered with a Greek fret. The five principal lines, which mark the division of the day into four parts, are crossed at the end; and each part of the day is subdivided into three by plain lines. The time division is the same as at Bewcastle, having the octaval and twelve-hour systems combined. Above this semicircular dial is the name EADRIC. Dr. Haigh attributed this dial to the seventh century, as a prince of the South Saxons of the name of Eadric was living in 685, but the form of the letters is of a later date, and the altar is of Caen stone, while the Saxon work of the church is of rough yellow sandstone. It seems most probable that Eadric was the name of the maker, and that the dial may date from the eleventh century.

There are other church dials in Sussex, but apparently of later date. Mr. P. M. Johnstone, writing in 1898 on "low side windows,"¹ mentions "a sundial marking cut on the right-hand external jamb" of three low chancel windows at Botolphs, Ford, and Rustington. These are all thirteenth-century churches, and as a solution of the difficulty of accounting for a special low window, as to which many conjectures have been offered, Mr. Johnstone suggests that they were probably made for

¹ "Sussex Archæological Collections," xli. 176.

the purpose of hearing confessions. The sun-dial "would seem to connect external approach to the window with certain times of the day." "The date of these windows coincides with that of the coming of the Friars," the great revival preachers and confessors of the Middle Ages, and



BISHOPSTONE.

"they gradually ceased to be made when the influence of the friars began to wane." The dial at Botolphs shows two morning and one afternoon hour. Other Sussex dials have been noticed at Boxgrove, West Thorney, Ardingly, and Alfriston. One on Isfield Church, with the date 1660 near it, has been cut on a south buttress, with part of the stone left projecting to serve as a gnomon. It is not often that we meet with a stone gnomon on an English dial, though in Scotland it is common enough.

In Hampshire there are three little dials, much resembling each other, on the churches of Warnford, Corhampton, and St. Michael's, Winchester. In each the dial forms half of a complete circle, and beyond

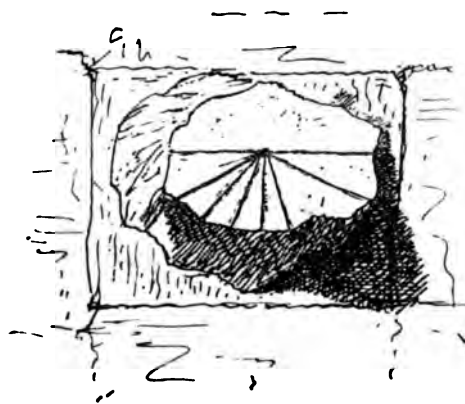
ST. MICHAEL'S,
WINCHESTER.

the circle, in the four corners of the stone, are floriated ornaments. The dials at Warnford and Corhampton are divided into four day spaces; in that at Winchester each of these spaces are subdivided, the morning tides into three, and the afternoon into two parts. The 9 a.m., the midday line, and that for the last afternoon hour, are crossed. These marks would correspond with the canonical hours of Undern or Tierce, Sext, and Vespers or Evensong. From the *fleur-de-lys* ornament it appears certain that these dials cannot be earlier than the twelfth or thirteenth century. St. Michael's is a modern church built out of old materials, but Warnford and Corhampton, in the old district of the Meonwaras, are both ancient. Corhampton is considered to be of Saxon architecture, and the history of Warnford is told by two Latin inscriptions, one on the porch and the other on the north wall.

FRATRES ORATI PRECE VESTRA SANCTIFICATE
 TEMPLI FACTORES SENIORES ET JUNIORES
 WILFRID FUNDAVIT BONUS ADAM RENOVAVIT.

ADAM HIC DE PORTU SOLIS BENEDICAT AB ORTU
 GENS CRUCE SIGNATA PER QUEM SUM SIC RENOVATA.

[*Brothers, pray; sanctify with your prayer the builders and the rebuilders of the church. Wilfrith founded it; the good Adam rebuilt it.*



STOKE D'ABERNON.

Let the race that is signed with the sign of the Cross here bless from the rising of the sun Adam of Port, by whom I am thus rebuilt.]

The dial, which is on the south side of the church, might be contemporary with the rebuilding by Adam de Port in the twelfth century.

We have no other dials recorded from Hampshire. In Surrey there

is one which appears to be fairly early, on Stoke d'Abernon Church. The stone on which it is cut projects from the wall near the old south door; the edges are broken away, and the lines divide the day into four not quite equal spaces, those of the morning being subdivided. Part of the church may have dated back to Saxon times, and there are Roman

¹ "The Conversion of the Heptarchy," by Bp. Browne, S.P.C.K., 1896, p. 175.

bricks worked into the wall, but the greater part of the building is of the thirteenth century.

There are dial lines of later date on the old church of Shere near Guildford.

Several dials of the same character were described by Mr. Warrington Hogg in "The Strand Magazine," 1892, as having been noticed by him on several churches in Kent, viz., at Mersham, where there are seven circular dials beside the south doorway, the largest measuring 9 inches in diameter; at Barfreston and Patricxbourne, in a similar position; at Smeeth, and Wingfield, and at Warehorne, where the stone had evidently formed part of an earlier building. On the south wall at Lyminge Church, which forms part of St. Dunstan's work, there is a dial cut on a corner stone, but from Mr. Hogg's sketch it would appear that the hour lines were cut after the stone was placed in its present position, as they nearly all project beyond the semicircle, and the midday line is carried on to the stone below. The day is divided into twelve hour spaces. A small circle with four hour lines is on a stone by the south door inside the nave at Herne Church, Kent. The dial is upside down, and has, one would think, belonged to an earlier building.

A sketch of a circular dial-stone on the south face of the nave of Bricet Church in Suffolk was given by Mr. Syer Cuming in "The Journal of the British Archæological Association" for September, 1873. The dial measures 15 inches across, and only five of the hour lines appear to be distinguishable. One of them terminates in a cross *botonnée*, another has a tripartite end. The church was founded about 1096, and the stone appears to have formed part of the original building. On a stone in the porch buttress of Hardingham Church, Norfolk, there is a semicircle divided into eight equal spaces; and at Hales Church in the same county are five small dials, and also one at Sporle, built into a buttress of the church.



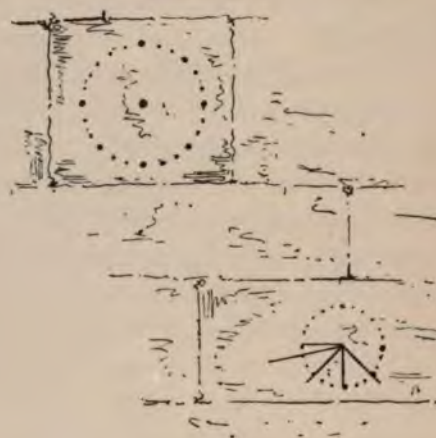
HARDINGHAM.

The Hardingham dial was noticed by Mr. J. Park Harrison, to whose kindness we also owe the following dials from Gloucestershire. One of them is at Daglingworth, and is circular, about 10 inches in diameter, and the lower half divided into four equal spaces. The three dividing lines are crossed, and the first space is subdivided by a plain line which would mark the beginning of the first tide of day, 7.30 a.m. The dial appears to be *in situ*, though covered by a porch of apparently almost contemporary date, and is in perfect preservation.

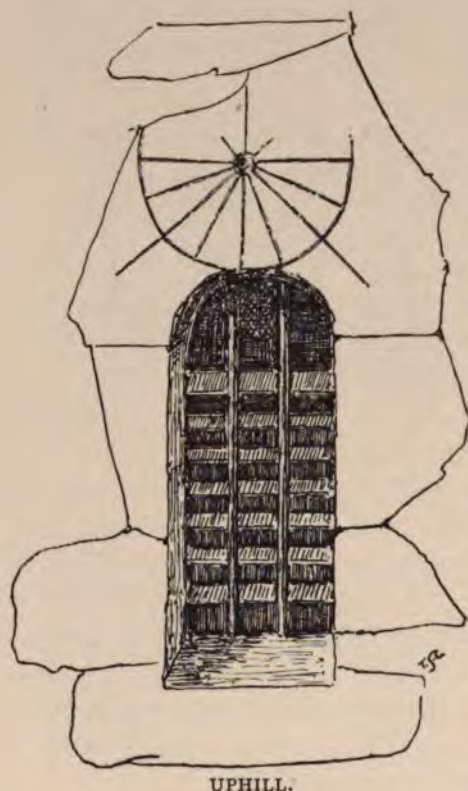
At South Cerney, where the church is also of early date, three dials are built into the south buttress of the tower, and are formed by circles



DAGLINGWORTH.



SOUTH CERNEY.

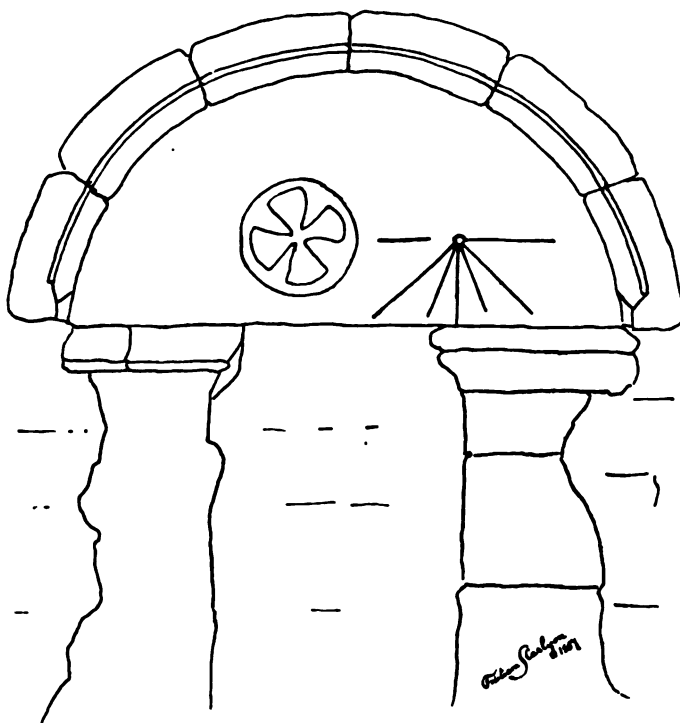


UPHILL.

of small holes; two of these are divided into day and night hours, and the third into six day spaces, with a supernumerary line sloping upwards to the left. In the uppermost dial, midnight and 3 a.m. are marked by larger holes than the rest. This dial has suffered the most from the weather. Other dials have been noticed on Norman churches in Gloucestershire, as well as at Hasfield, Coaley, and Weston-under-Penyard in the same county.

There are two early dials described by the Rev. G. J. Chester in 1884, on the church of Uphill in Somersetshire. The church of Uphill, which stands on a hill over-

looking the Bristol Channel, has been for some years disused, a new church having been built below. "The chancel of the old church has, however, been preserved as a burial-chapel, and the tower still holds the bells. The nave has been unroofed and lies open to the weather. The lower part of the tower, which is central in position, is of Norman character, and has on its southern side a small and



UPHILL.

narrow round-headed window, apparently of Norman date. Worked into this window, and forming its top, is a more ancient stone, which bears upon it a sun-dial, possibly of the Saxon period. A small hole drilled in the face of the dial on the left side seems to indicate that the gnomon had a support. The south doorway of the nave at Uphill is of very early character, and may be of pre-Norman date. The tympanum is formed of a single block of limestone incised with a circle, the centre of which is a Greek cross. On the right of this are the radii of a second sun-dial, similar in character to that on the tower."

In 1888 a sun-dial was discerned on the south porch of the church of North Stoke, Somerset, by the Rev. W. S. Calverley, F.S.A.¹ The

¹ "Proceedings of Somerset Archaeological Society," 1888.

stone on which it is cut forms part of the edge of the porch doorway, and is about $5\frac{1}{2}$ feet from the ground. The stone is the same kind as that of which the church is built. There is a mark beyond the circle of the dial to which the 4 o'clock afternoon ray extends. The gnomon is gone, but the holes by which it was fastened are clearly shown. The diameter of the circle is $6\frac{1}{2}$ inches.

Two dials of the same character are on the south porch of the church of Newton St. Loe, which is of the Decorated style, and another on a Perpendicular buttress at Stanton Prior. There are traces of two dials on stones built into the walls of the little church at Brympton in Somersetshire; at Lydiard St. Lawrence there remains a deep gnomon hole, the faint outline of a semicircular dial, and the hour lines from 6 a.m. to 1 p.m.; and on the walls of Bath Abbey Church there are no less than thirteen dials, varying in size, and in the number of lines, and three of these are on the north side.



LANGFORD.

At Tarrant Rushton in Dorsetshire the remains of a dial was noticed on the church wall when the plaster was being removed, and two circles with the lower half rayed are at Bradford Abbas.

At Knook Church,¹ Wilts, the western cap of the south door is formed out of an early dial. Only the western half remains, and this is divided into eight spaces, and the "day mark," which showed, it is said, the change from morning to full day, is placed between the first and second hour lines.

One of the most interesting of the early dials is on Langford Church, Berks. It was carefully described and figured by Sir Henry Dryden, Bart., and by his kind permission a reproduction of his drawing is given here. The tower of the church is Early Norman, or probably Saxon, and on the edge of each side is a projecting pilaster. A third pilaster is in the centre of each side, and it is in the lower part of this, on the south side, that the dial slab is inserted. Sir Henry Dryden writes:² "The slab is 3 feet 4 inches high, 1 foot 11 inches

¹ "Arch. Journal."

² "Notes on Langford Church," Rep. N. Oxon Arch. Soc.

wide at the top, 1 foot 8 inches at the bottom, and of 3 inches projection. It is surmounted by a projecting block. On it, in low relief, are two men, 2 feet 9 inches high, with bare heads and apparently short pointed beards, clad in short skirts or kilts, but as to the upper parts of the bodies and legs, in close-fitting garments. Behind them appear lines of drapery as cloaks. They support over their heads a flat semicircular disc of 1 foot 8 inches in diameter, and about 1 inch relief. The iron gnomon is gone, but the part of it inserted in the stone remains. As the stone is much decayed, the form and arrangement of the numerals on the dial cannot now be ascertained. The date of the dial is of course doubtful. So far as the costume is evidence, it may well be cotemporary with the church, but it may have been inserted long subsequently."

There are two other remarkable relics at Langford; one a representation of the Crucifixion, carved in limestone, over the south porch, consisting of three figures—the Saviour, the Blessed Virgin, and St. John. The figures are decayed from age, but not mutilated. The other is a Saxon sculpture of a "vested crucifix," the figure of our Lord on the Cross, draped in a stiff vestment resembling a cassock, with a girdle round the waist. It is 5 feet 10 inches high, and the head is cut off. Probably the figure has been moved to the porch from some other place, as there would not be room for a head in the sunk panel where it now stands.

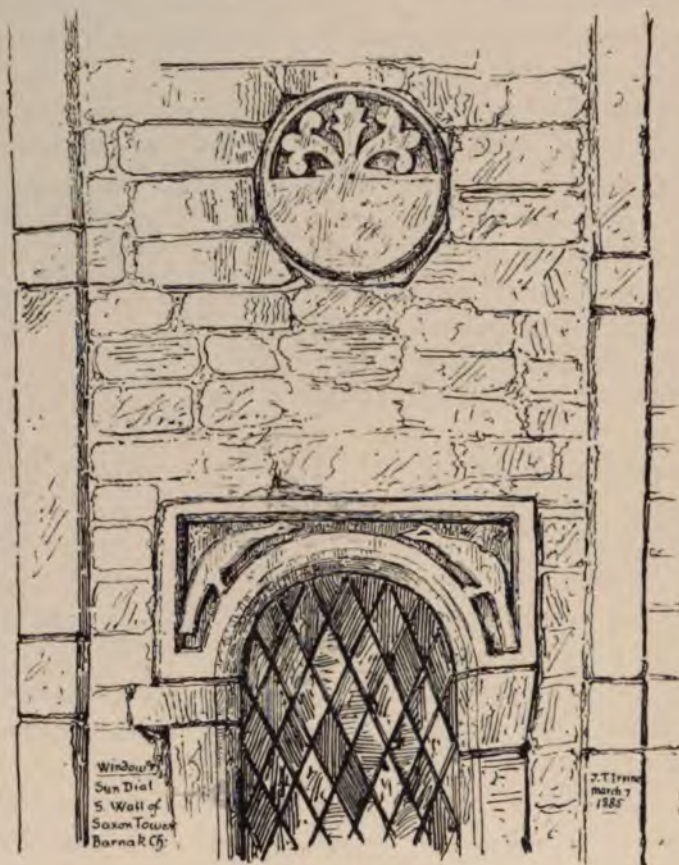
Mr. G. Leslie, in his charming "Letters to Marco," gives a sketch of a curious old dial in the wall of St. Mary's Church, North Stoke, Oxfordshire, which, by the kind permission of Messrs. Macmillan, we are enabled to reproduce. Here also the time is divided into eight portions.

There are two small circular dials at Binsey, in Oxfordshire, one on a buttress near the priest's door, and the other on the porch.



NORTH STOKE, OXFORDSHIRE.

The fine pre-Norman tower of Barnack Church, in Northamptonshire, has upon it a dial which is possibly of later date than the building. It is semicircular, but the hour lines are unfortunately obliterated. There is a hole for the gnomon, and the remainder of the circular space above the dial is filled with sculptured trefoil ornament of the same character as that on the Hampshire dials.



BARNACK.

A great number of the mysterious little dials or circles, of which several specimens have been already noticed, are found on churches in Northamptonshire. Some of them, observed and sketched by Mr. A. Armstrong, were described in the second edition of this work. Several more are mentioned by Sir Henry Dryden in a paper read before the Northampton and Oakham Architectural Society in 1896. In this paper the question is again raised, Are these little rayed circles dials at all? and if so, how could they possibly have told the time with any accuracy with their irregular lines, and in the extra-

ordinary positions in which they are placed? In many of them the central hole is so shallow that it would not have held a gnomon, and there are no signs of any support nor trace of any of the lead by which a gnomon could have been fastened. Sir Henry writes: "They are usually circles or parts of circles from 3 inches to 10 inches in diameter, formed by grooves about $\frac{1}{8}$ inch wide and the same deep, placed from 4 feet to 7 feet from the ground. They have a central hole of $\frac{1}{2}$ inch or $\frac{3}{4}$ inch in diameter, and from $\frac{3}{4}$ inch to 1 inch in depth, and lines or rows of small holes radiating from the centre, and in some instances small dots or cavities in the periphery of the circle. Some have rays or dots only in the lower half of the circle. There are many varieties. . . . They are found apparently all over the kingdom, and many could not have been cut without ladders. We may look with suspicion on those about breast high, on those with a central cavity which would not hold a gnomon, and on those with irregular rays. It is possible that some might have been a kind of time-table to show service hours."

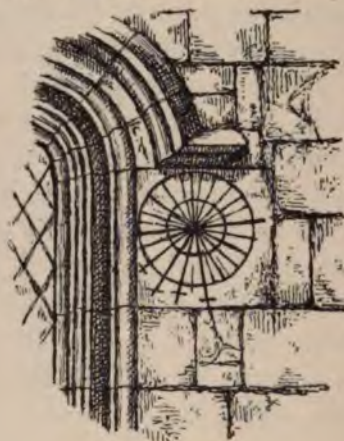
Some of these stones are built into the churches in so irregular a way that it seems probable that they were intended for use in some other situation, and were either left unfinished or known to be imperfect; or if intended for use, they might possibly have been adapted only to certain days in the year, such as the dedication day of the church. Mr. Calverley tells us that he tested the Isel dials on St. Michael's day and found them correct. It was at first thought that the completely rayed circles must have originally been horizontal dials, but there is no evidence for this, and some of the hours marked must still have been useless. Their resemblance to the sun circles found on prehistoric remains is certainly striking. "The Journal of the Society of Antiquaries of Ireland" gives drawings of stones at Dowth and Lough Crew with small circles on them, either crossed or rayed, and with central holes. A stone on Patrickstown Hill, Lough Crew, shows a small rayed circle with a central hole, and below the circle a double semicircular arrangement of rays terminating in round holes, very much like some of those which we still find on churches. Is it possible that these circles may sometimes have been carved on the church for "luck," after the meaning of the original symbol had been forgotten? It is said that the Irish remains show the influence of the later bronze age of Scandinavia.

A sun-wheel of this type is at Ecton, on the east side of the porch, with a hole 4 inches deep for the gnomon in the centre, and divided into twelve spaces, which are subdivided by smaller lines at the outside

circle. Another, on the south wall of St. Nicholas' Church, Potterspury, shows what appear to be two sets of lines cut at different times; the smaller ones divide half the circle into thirteen spaces, the larger and deeper into ten. Four of these last project beyond the circle and are



ECTON.



POTTERSPURY.

crossed, and possibly two others may have been treated in like manner, but the stone has been cut away for the splay of the window. The crossed lines are placed in the same position as on the dial at Old Byland. There are several other rough little dials on the walls of the same church. The date of the building is uncertain; the oldest part



GRAFTON REGIS.

may belong to the reign of Henry III., where mention is made of a church at Potterspury. "A priest" alone is named in Domesday Book.

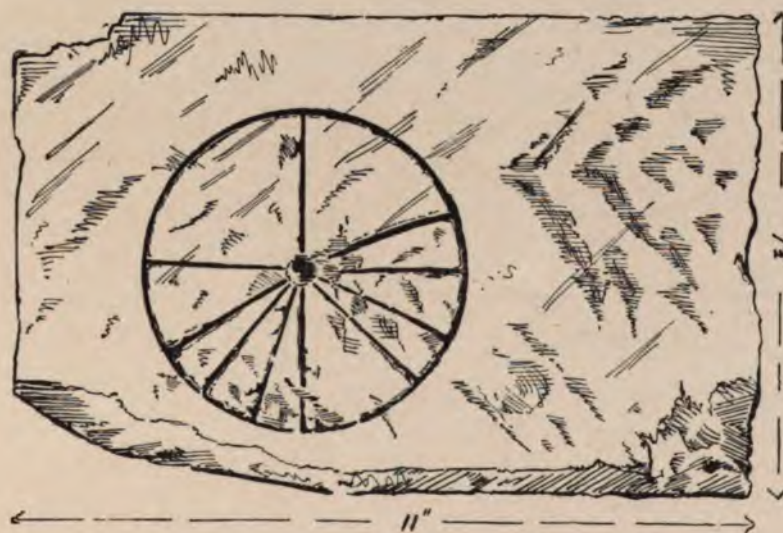
At Grafton Regis three out of four dials would seem to be older than the present church. Two are circular, about 9 inches in diameter, one being built upside down into the side of a window, and the other on the west side of the porch. Both appear to divide the day into

eight equal spaces, and later hours of the day are not marked. The circle of the upper dial is imperfect. A third specimen, beside a south window of the nave, consists of two incomplete circles of holes, with a large hole in the middle. The inner half circle would seem to mark the division of time according to the octaval system; the outer one is irregular, and the holes are not all of the same size, and do not correspond with those on the inner line, and the arc itself is imperfect.

Other dials of the same kind have been noticed at Earls Barton, on buttresses of the south aisle; at Blakesley, and at Higham Ferrers, where there are two groups of ten rays each in the semi-circle, one on each side of the gnomon hole, and spaces where four additional lines might have been added. This is about 16 feet from the ground, on a south buttress near the priest's door. Sir Henry Dryden also notices a circle on Towcester Church divided into four spaces, the lower ones



HIGHAM FERRERS.



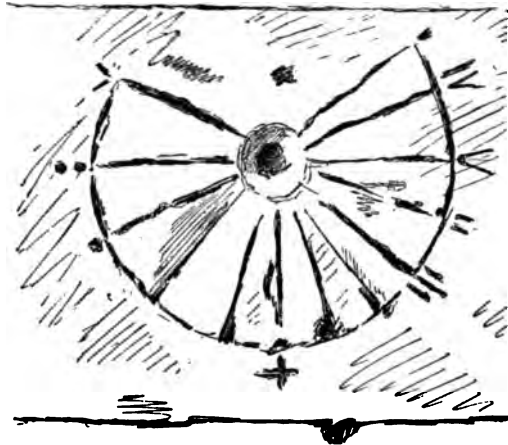
ST. SEPULCHRE'S, NORTHAMPTON.

being subdivided each into four; another at Charwelton, where five rays diverge from a common centre to the right or eastern side; and

two at Collingtree, beside a door in the south wall of the chancel. One of these is only $4\frac{1}{2}$ inches in diameter, and has seventeen irregular rays, some of which pass through the circle. There are also three small dials at Moreton Pinkney, the remains of nine at Floore, one at Everdon, two at Norton by Daventry, one at Newnham, and two at St. Sepulchre's Church, Northampton.

The last of these is of special interest. It is now built into the porch upside down, and has evidently belonged to an older building. The dial is circular, about $5\frac{1}{4}$ inches in diameter, and the hole for the gnomon is $1\frac{1}{4}$ inch deep. Dr. Cox¹ writes that "the actual markings or rough workings of the stone, irrespective of the circular incised pattern, shows that it was hewn prior to the Conquest, for it is plainly marked with the Anglo-Saxon chevron tooling in contradistinction to the diagonal Norman axeing." The dial is divided into four parts, and the lower half subdivided unequally by lines which Dr. Cox takes to show the canonical hours of prayer, and an additional line for the beginning of the third great division of the day according to the octaval rule, 10.30, which would also be the hour for high mass on festivals

and Sundays. The centre hole is conical, and $\frac{3}{4}$ of an inch deep. The second dial is on the east side of the porch entrance, and probably as originally placed. It is formed of an incomplete circle of small holes, which show the twenty-four hour divisions, and two faintly-marked rays. It may possibly be as old as the porch, which was rebuilt about 1400.



GEDDINGTON.

We are indebted to Mr. C. A. Markham for the sketch of a dial on the south buttress of

Geddington Church, on which the afternoon hours are marked by Roman numerals, cut, doubtless, by an ignorant mason (the VI being represented by IV) at a later date than the dial. The south-west quadrant, which shows the morning hours, is divided into four spaces, and the south-east quadrant into five, and neither of them corresponds with the ordinary modern hours as marked by the numerals.

¹ "Hist. of the Church of the Holy Sepulchre," Northampton, Revs. J. C. Cox and R. M. Serjeantson, 1899.

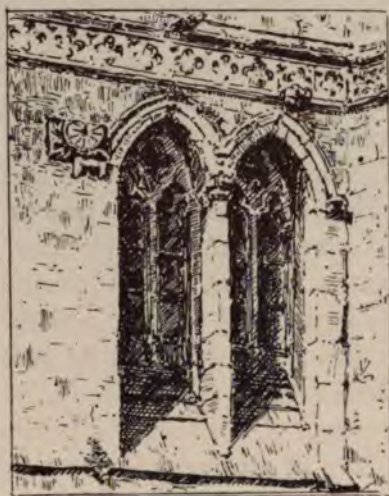
In the neighbouring county of Buckingham, dials of the same type with circles or rays, have been seen at the following places: one on Loughton Church, where the dial is circular and has twenty-four divisions, three at Whaddon, three at Sherrington (one bearing the remains of Roman numerals), two at Castlethorpe (both circular, with the lower half divided into twelve spaces, and apparently coeval with the Perpendicular church), and several scattered about on stones near the priest's door at Great Linford, irregular both as to lines and holes.

Mr. W. Andrews, in a paper read before the Archæological Institute in 1888,¹ drew attention to these rayed circles, and suggested that they might be sun symbols. He gave examples of twelve varieties, viz., the double, the spot, and the rayed circles; the circle with the lower half rayed; the rays without an outer ring, and sometimes one or two rays only starting from a central hole; as well as the semicircular, which is the most ancient form. On Nuneaton Church Mr. Andrews saw six spot circles, varying in size from $1\frac{3}{4}$ inches to $3\frac{1}{4}$ inches, besides two rayed circles. On Cubbington Church there was a double ring and a circle with the lower half rayed. At Berkswell a rayed circle, at Knowle a group of sixteen rays without a ring. On Shilton Church four circles with the lower half rayed, and one at Chilvers Coton; at Hampton-in-Arden a ring with a vertical groove, two concentric rings, and ten with the vertical groove only; at Wootton Warren a half circle, and on the south wall of Catthorpe Church a circle divided into fifteen unequal spaces. At Tachbrook there are several dials, and also at Ryton-on-Dunsmore, where one is inside the tower on the north wall. Another is at Anstey; and on the south wall of the chapel at Kenilworth Castle, which belongs to the Norman portion of the ruins, there is a dial circle. The like have been noticed at Dudlington, Stoke Golding, and Aylestone in Leicestershire; Marston Montgomery in Derbyshire; Ledbury, Herefordshire; and North Mimms, Herts. Mr. Andrews adds that there is hardly an unrestored church in Warwickshire, Northamptonshire, or Leicestershire but has circles or imitation dials on its walls.

On the church tower at Dunchurch near Rugby there is a very clearly-marked dial, circular, and cut on a square projecting stone, and with rays dividing it into twelve spaces. The gnomon hole is slightly splayed to the west. The dial-stone is placed above one of the corbels of the belfry window, and appears to be in its original position and of the same date as the window, which belongs to the earliest portion of the tower. It forms a distinct architectural feature,

¹ "Archæological Journal," vol. xlv. ("Cup and Circle Markings on Church Walls in Warwickshire and the Neighbourhood").

and is of the same width as the corbel, which represents an animal carved "grotesque and grim." The church was built by the monks of Pipewell Abbey, who had a grange at Bilton near Rugby, and is partly Early English and partly Decorated. The fine tower is mainly late fourteenth-century work, but material from an older building is worked into it. At the south-east angle there is a seat in the form of



DUNCHURCH.

an armchair, called "Dasset's chair." Who Dasset was is not known, but a family of that name was living at Thurlaston near Dunchurch in the fourteenth century. The dial may have been the work of one of the early Cistercians of Pipewell.

A circle of holes, with the lower half rayed, is on Caythorpe Church, Lincolnshire, and at Bottesford in the same county there are two circles, the most perfect having twenty-four divisions, twelve of which are halved. On the church of Covenham St. Mary near Louth four small dials have been noticed and described by Sir Henry Dryden.¹

One of these, which is on the east side of a south window in the chancel, and is circular, $6\frac{1}{2}$ inches in diameter, with a central hole about $\frac{1}{2}$ inch wide, is divided into four quadrants; in the north-west quadrant are three rays, not quite regularly spaced; in the north-east one ray, near the perpendicular line; in the south-west three rays; and in the south-east quadrant six rays, irregularly spaced. Another dial, on the south wall of the chancel, is also circular, but with a double outer circle and twenty-four rays. The hours from 4 a.m. to noon are marked by Roman numerals, and these are cut, as at Geddington, to be read from the inside, as on a horizontal dial, although their position shows that the dial was a vertical one. They were probably added by an unskilled hand after the dial was cut. The central hole is $\frac{1}{2}$ an inch in diameter and $2\frac{1}{4}$ inches deep, and there was found in it a fragment of wood with lime on it, the remains, no doubt, of a gnomon.

This list of dial-circles and half circles might grow indefinitely were all existing examples to be recorded, but it is already too long. What researches have been made are necessarily partial in character, and we

¹ "Dials on the Church of Covenham St. Mary," a paper by Sir Henry Dryden, Bart. (Ass. Arch. Soc. Rep. and Papers, 1897).

cannot yet tell whether these rayed circles¹ are confined to those counties where they have been noticed by archæologists, or whether they are scattered indifferently over England. At any rate, we have been able to trace the vertical dial in a regular progression from the eighth century to the fifteenth, through difference of time markings, Norse and Roman, lay and ecclesiastical, up to the time when it became scientifically accurate and artistically beautiful in the hands of the Renaissance builders.

¹ The suggestion has been made by Mr. Lewis Evans, F.S.A., that some of the early dials, or circles, with but few rays on them, may have been used as horizontal dials for finding the north only, by means of morning and afternoon observations of the shadow of a vertical gnomon. Some of the others with the whole circle divided might have been placed horizontally to show the points of the compass, or they might have been used as equinoctial dials. It is possible also that some were divided with the object of serving as protractors, to give the stone-cutters certain angles.

CHAPTER V

EARLY IRISH DIALS

"In the evening and the morning and at noonday will I pray."—*Ps. lv.*

THE early dials described in the previous chapters have been roughly called Anglo-Saxon, and considered in their relation to the different



1. FOOT
INISCALTRA.

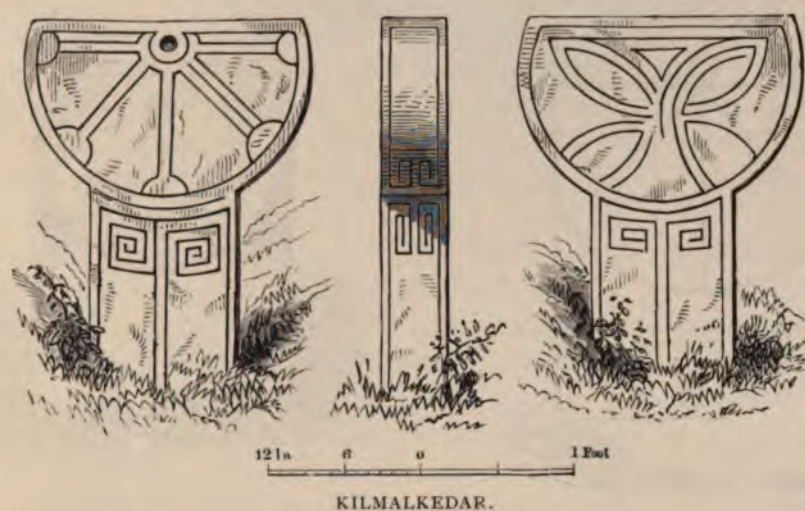
day-divisions which prevailed amongst the tribes of the conquering race. There are also certain sundials in Ireland which seem to belong to the same period, and to be relics of the old Celtic Church. They are cut on upright stones in old graveyards, and were first noticed by the late Mr. Du Noyer. His notes were included in a paper written by Mr. Albert Way for "The Archæological Journal."¹ The dials are, as a rule, semicircular, and follow the octaval division of the day. The first was found at Iniscaltra, or Holy Island, in Lough Derg. "It is on the top of a slab, measuring 5 feet in length by 16 inches in breadth; and intended to be placed erect in the ground. The semicircle is divided into four parts by five lines deeply cut; the perforation at the top is large, and intended possibly to receive a gnomon of wood, which, being shaped to a point, threw a slender shadow on or near the circumference of the semicircle beneath." Each of these lines has lateral branches to right and left, where it touches the semicircle, excepting that at the western end of the horizontal line, which has only one branch. Mr. Du Noyer assigns this dial to the time of St. Camin (who died in A.D. 658, after having

founded the abbey of Iniscaltra), on account of the similarity of its style of workmanship to that of the ancient sculptured stones of Kerry, one

¹ Vol. xxiv., p. 213.

of which has also dial lines cut upon it. This is at Kilmalkedar, and is a thick slab of grit, standing about 3 feet 8 inches from the ground. The semicircle, or rather horseshoe (for the height is 15 inches, and the width at the top 21), rests on a shaft 5 inches thick, 11 inches wide at the top, and 10 inches at the base. This shaft is ornamented with a Greek fret, but the bottom ornament, as shown in a sketch in "The Journal of the Irish Society of Antiquaries" (1892), is not visible in our illustration.

The day-divisions are given by double lines, the ninth hour, or 3 p.m., being indicated by three lines. "All these branch off into small semi-

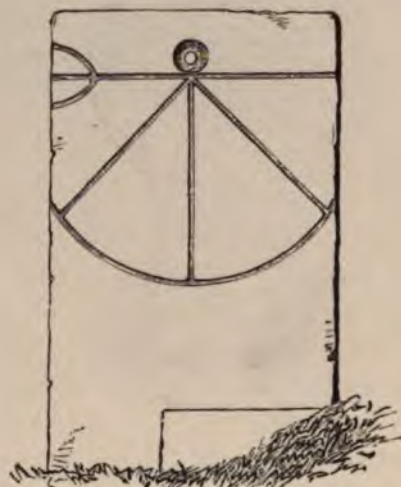


circles, touching the outer rim of the dial. The reverse of the dial is ornamented by the interlacing of four parts of circles, indicating a flower-like cross, but if we look at the spaces between the segments we get a cross of eight points of the form recognized by Irish antiquaries as characteristic of periods prior to the tenth century. The old church of Kilmalkedar is assigned to the early part of the twelfth century, and the graveyard is full of imitations of the old dial, which now serves as a headstone." The branch lines have a curious resemblance to the half moons which are sometimes found attached to the spokes of the sun-wheel symbols described by Professor Worsae,¹ but Mr. Du Noyer regarded them as marking certain times before and after the five chief canonical hours, which he believed to be indicated by the great dividing lines.

In a dial of the same character at Monasterboice, co. Louth, the

¹ "Industrial Arts of Denmark,"

hole for the gnomon was found to be of a peculiar funnel shape. Mr. G. J. Hewson¹ writes that on putting in his finger he "found that the hole widened within to fully one and a half diameter of the narrowest part, and then narrowed again till it came to a blunt point at the bottom"; the hole in the stone at Kilmalkedar was precisely the same shape. It had been previously suggested that the Kilmalkedar stone was a "chalice cross," and the hole a betrothal or swearing hole, and this discovery seems to confirm the supposition. In former days, when a priest could not be had, it was a common practice amongst the Irish for the bride and bridegroom to put each a finger in the hole, and pledge



KILCUMMIN.



SAUL, CO. DOWN.

themselves in the presence of witnesses. This engagement held good till a priest was procured to solemnize the marriage. The hole at Kilmalkedar is $1\frac{3}{4}$ inch in diameter. One might suggest that the gnomon hole was turned to this use after the disappearance of the gnomon.

Dr. Haigh gives an illustration of a dial with the horizontal line branched at the end, and the other lines dividing the day into three parts, found on a stone slab at Kilcummin, co. Mayo. St. Cummin or Camin, who founded, as already mentioned, the abbey of Iniscaltra, and was afterwards Bishop of Clonfert, was buried at Kilcummin, his cell, his church, and his burial cairn all being in the same inclosure with the dial, which is apparently of the same age. Shortly before his death Mr. Du Noyer saw another specimen at Saul, co. Down, in the churchyard. The church stands on the site of one founded by St. Patrick, on the ground given to him by his first convert, the chieftain Dichu, and

¹ "Journal Soc. Ant. Ireland," 4th s. viii. 249; 5th s. ii. 438.

it was to the monastery of Saul that the saint, after his many wanderings and labours, returned to die. The dial is shaped like a shield, and the spaces between 9 a.m., noon, and 3 p.m. are subdivided, but the first morning to the latest evening hour seem to correspond with the hours of 7 a.m. and 5 p.m., and the 6 o'clock horizontal line is wanting.

On the south-east side of the old church of Clone, co. Wexford, there is a stone slab with a semicircular dial upon it. In 1895 it was described as lying on a small mound adjoining the churchyard. There are twelve hour lines, and the spaces between them were measured by Mr. Du Noyer, who found that they corresponded with the hours of 6, $7\frac{1}{2}$, 9, 10, 11, 12, $1\frac{1}{2}$, $2\frac{1}{2}$, $3\frac{1}{2}$, 4, 5, and 6. Above the gnomon hole there is another, which may have held a diagonal brace or support for the gnomon. If this was the case, and if the gnomon was inclined to the complement of the latitude, there must have been a great advance in knowledge before this dial was constructed. The remains of the church appear to date from the thirteenth century, and the dial would seem to belong to the same period.

The last dial described by Mr. Du Noyer is of later date, and is circular. It is cut on a slab of grit, which now serves as a headstone in the churchyard of Kells, co. Meath. It is divided into twenty-four equal parts, inclosed in a double circle. The four principal lines are elongated, and three of them end in crosses. They may have been intended to mark the points of the compass if the dial was originally placed horizontally. The letter R is carved on the stone, and resembles the capital letters of the sixteenth century. Part of the gnomon remains in the centre of the circle.

The practice of cutting sun-dials on tombstones continued in Ireland up to the eighteenth century. There are specimens in the churchyard of Clogher; and a fragment of a stone, which is now in the Dublin Museum, shows a horizontal dial of the old pattern, a double circle, with lines radiating from a central hole, and showing hours, which are numbered, from 5 a.m. to 8 p.m. Beside it, roughly cut, are the words:

[PR]AY FOR TERRENCE BENNET 1748.

It came from the churchyard of Killbay near Kells.

Whether any of these tombstone dials are as ancient as Mr. Du Noyer supposed may, perhaps, be doubted, but they are certainly of singular interest. His view, that the canonical hours rather than the points of the "day tides" are marked by the radiating lines, gains confirmation from the drawing of a "horologium" in an eleventh century

Saxon Psalter in the British Museum ; each canonical hour is here marked by its initial letter ; the hours for Tierce, Sext, and Nones are crossed, and the noonday line projects beyond the circle in an ornamental cross, not unlike those on the Kells stone. The lines are drawn for suggestion, not for use, and the hours of the day are numbered so as to bring the sixth to noon and the twelfth to eventide, after the ancient custom. The same use has been followed by D. G. Rossetti in his beautiful little sketch of an angel holding a vertical sun-dial, called "Dante's Amor." In this Saxon horologium there are seven circles ; the hour lines stream down like rays from the higher circles of light, and on the third circle the fylfot is twice marked, possibly with reference to the two hours of prayer which are not included among the day hours. Durandus,¹ writing in the thirteenth century, states that the "Horologium, by means of which the hours are read, teacheth the diligence that should be in priests to observe at the proper time the canonical hours, as he saith, 'seven times a day do I praise Thee.'"

A Latin distich, which gives the reason for appointing these seven special hours for prayer, also accounts for each of them being marked on the dials with the sign of the Cross :

"At Matins bound, at Prime reviled, condemned to death at Tierce,
Nailed to the Cross at Sext, at Nones His blessed side they pierce.
They take Him down at Vespertide, in grave at Compline lay,
Who thenceforth bids His Church to keep His sevenfold hours alway."

A dial of much later date than any of the above is built into the east wall of the cathedral of Killala, co. Mayo. It is an "east declining dial," and shows the hour from 4 a.m. to noon. The gnomon is gone.

Two curious little detached dials belonging to an early period are described in the same archæological papers to which we have frequently referred.² The first was turned up by the plough in 1816 in the old fortress of Cleobury Mortimer in Shropshire. It was of shell limestone, flat on one side and convex on the other, about $3\frac{1}{2}$ inches by $3\frac{1}{4}$ inches in size, and about $1\frac{1}{8}$ inch thick. It was pierced through from edge to edge, as if intended to be strung on a cord, and with it were two beads or whorls with runes on them, evidently meant to be hung on the same string as the dial. The dial itself is circular, with hour lines radiating from a central hole, and below are some smaller

¹ "Rationale Divinorum Officiorum," translated by Dr. Neale.

² "Archæological Journal," v. 221 ; "Yorkshire Archæological Journal" : "Archæologia Cambrensis," 3rd s. xiv. 446.

holes irregularly placed, but corresponding with some of the lines. Mr. Du Noyer believed the rays to mark the canonical hours, and the dial not to be of later date than the twelfth century, while Dr. Haigh thought that the lines indicated the decimal time-division of the Jutes, and agreed with Professor Stephens of Copenhagen in assigning a very early date, the fifth or sixth century, to the dial. Mr. Lewis Evans suggests that it may have been a nocturnal dial, to be used by means of the pole star and the pointers of the Bear (with which the small holes have been thought to correspond), at certain times of the year. Professor Stephens gave an interpretation of the runes, but the



CLEOBURY MORTIMER.

accuracy of this has been questioned. The dial is still in the possession of Dr. Whitcombe of Birmingham, but, unfortunately, it has not been possible to obtain a fresh examination of it.

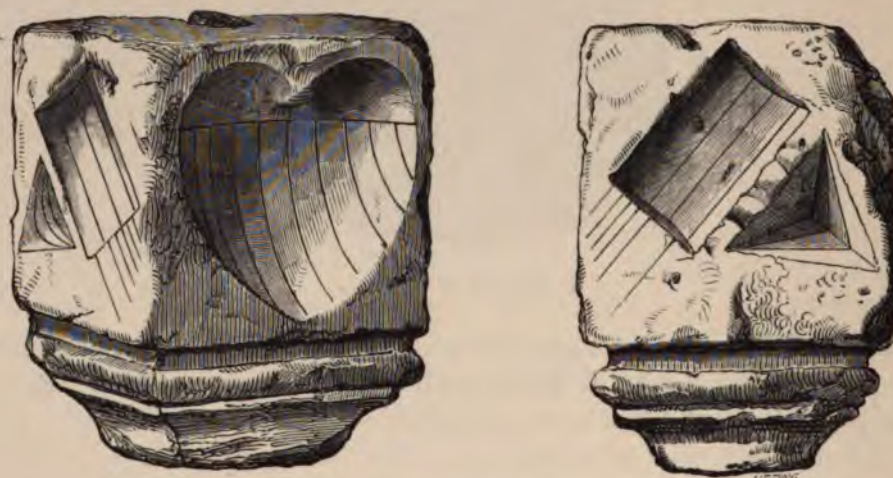
A small pear-shaped stone, measuring nearly 3 inches by 2 inches, and 1 inch thick, was found in the moat of Stokesay Castle in Shropshire. It is of soft sandstone, with a central hole and six conical holes in the edge. It was exhibited at the Midland Institute in Birmingham in 1897. The surface is much worn, and it seems almost doubtful whether it is a dial at all, but Dr. Haigh found traces of cement round the central hole, as if a style had been fixed there, and there were faint remains of radiating lines which might have marked 9 a.m., $10\frac{1}{2}$ a.m., noon, and 3 p.m.

CHAPTER VI

RENAISSANCE DIALS, DETACHED

"It were a happy life
To carve out dials quaintly, point by point."—3 *Henry VI.*

FEW things are more variable than the dates assigned to things found in places where the relics of different ages have become mixed together. The small stone cube of dials now in the Dover Museum was, when first dug up, thought to be Roman. It was the only one of the kind



DOVER MUSEUM.

known, and Roman relics had been found near the same spot, beside the desecrated church of St. Martin's-le-Grand. The church had once formed part of a Benedictine monastery, and it seems much more likely, from the appearance of the dials, that they were made by an ingenious Benedictine and set up on the wall of the monastery in the fourteenth or fifteenth century, than that they should have lain hidden since the Roman occupation.¹

¹ "Arch. Journal," xxi. 262; "Yorks. Arch. Journal," v.; "Strand Magazine, 1892."

The stone is a cube of fine-grained oolite, measuring $4\frac{3}{4}$ inches; on the top there is the remnant of an iron pin, and on the four sides are sunk dials, heart-shaped, oblong or cylindrical, and triangular. The stone seems to have been intended to stand on a small pillar or bracket. The sun-dials are calculated for latitude 47 degrees, so would not have told the time very accurately at Dover; but they may have served as models for other dial-makers, or the learned Benedictine may have had a special value for the relic of which we know nothing:

"We cannot buy with gold the old associations."

Compare with this cube the one found in the monastery at Ivy Church near Salisbury.¹ This is $5\frac{3}{4}$ inches in length and breadth, and $6\frac{3}{4}$ inches in height, but one inch had been inserted in a pillar, so that the cube is really perfect. "The corners have been cut off, so that besides the top and the four sides eight spaces were available for dials. The south side has a heart-shaped hollow, like the Dover cube," with eleven hour lines in it, and the east face a double plane resembling an open book. "The west face has three excavations: a rectangular one with a plane base, a semi-lenticular one (the figure being obtained by bisecting a thick double convex lens), and a rectangular one with a curved base. The semi-lenticular excavation was filled with a small stylus, indicating the afternoon hours. The north face has a large sharply-cut crescent recumbent on the convex side." The eight triangular dials at the corners are much damaged, but each had a small stylus and excavation. On the top of the cube was a horizontal dial, and the metallic sub-style is still visible and many of the Roman numerals marking the hours. The gnomon was evidently inclined to the latitude of the place, $50\frac{3}{4}$ degrees.

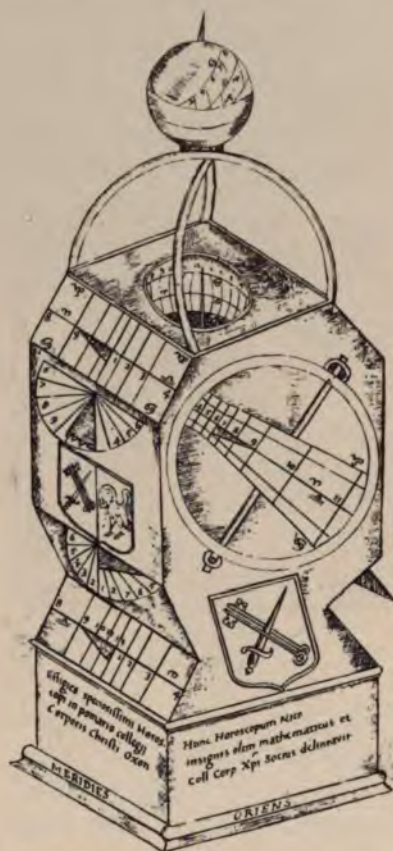
Dr. Dixon considered that the dial might be assigned to about the middle of the fourteenth century, when the learning of the Arabs had found its way into many parts of Europe. The little Dover dial probably came from France; here we find an English follower. Ivy Church was founded by Henry II., and for three centuries was a flourishing home of Augustinian canons.



IVYCHURCH PRIORY DIAL.
WEST FACE.

¹ "Wilts. Arch. Mag.," "Notes on a Sun-dial," by Rev. R. Dixon, xxvii. 236.

These little cubes are probably our earliest English examples of detached dials, that is, dials which stand alone, unattached to walls or buildings. They also show the return to the earliest antique type, where the shadow is cast in hollow places scooped out of the stone, with hour lines drawn upon them. These sunk dials became varied in form to a degree unknown to the ancients. They were hemispherical,



KRATZER'S DIAL, CORPUS CHRISTI
COLLEGE GARDENS.

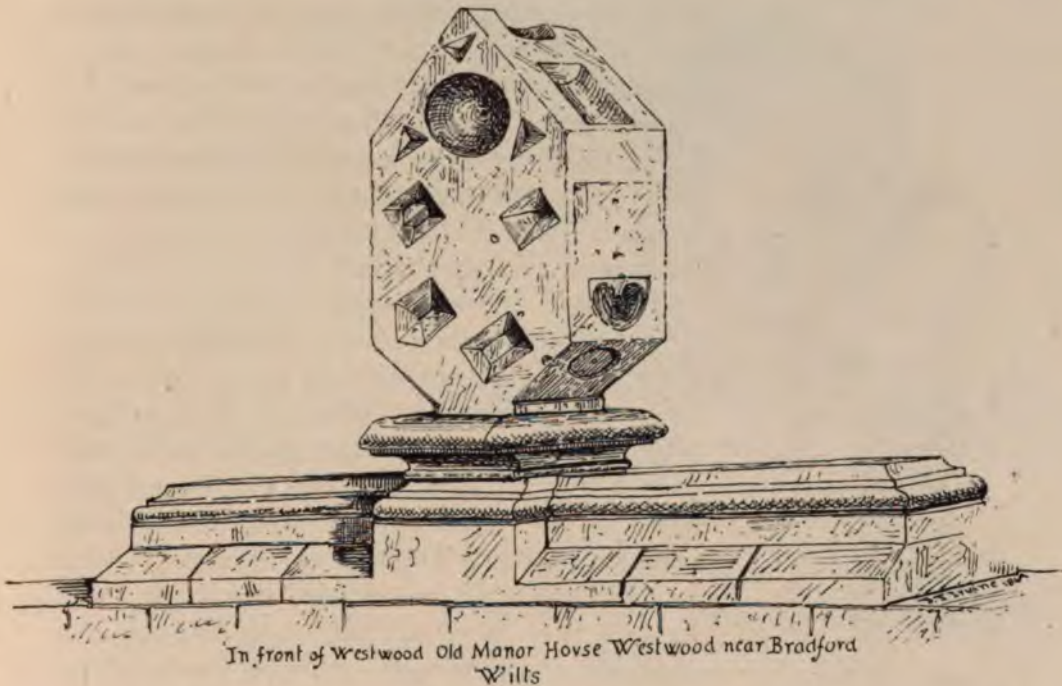
heart-shaped, cylindrical, triangular, oblique, and so forth, and to these were added, on the same stone, the plane, horizontal, vertical, reclining, and indeed almost every variety of dial. This combination of plane and sunk dials cut in stones which, whether great or small, were intended to stand alone, was developed till it became, not merely an ingenious instrument for ascertaining the time of day or for imparting scientific knowledge, but a decorative pillar, a work of art to be placed in courtyards, gardens, and public squares, at a time when the luxury of domestic architecture and the laying out of pleasure grounds began to be cultivated. These monumental dials were a product of the Renaissance.

No country shows such magnificent examples as Scotland. If we take the English specimens first, it is because we incline to the belief that some of them are of earlier date, and that the history of one of these, now, alas, no longer in existence, can be certainly traced to the beginning of the sixteenth century.

This was the dial which has been already mentioned, made by Nicholas Cratcher, or Kratzer, for the garden at Corpus Christi College, Oxford, probably in some year between 1520 and 1530. The date of its removal is not known, but thanks to Robert Hegge, a scholar of Corpus in 1614, and "a prodigy of his time," says Wood, "for forward and good natural parts," we have a sketch of it, which we are enabled to reproduce here by the kindness of Dr. Thomas Fowler, now Vice-Chancellor of Oxford, in whose work on Corpus Christi College it originally appeared.

Robert Hegge left behind him several MS. works, including two copies of a treatise on dials and dialling. He thus describes Kratzer's dial :

" In this beautiful Alter (on w^{ch} Art has Sacrificed such varietie of Invention to the Deitie of the Sun) are twelve Gnomons, the Sun's fellow travellers, who like farr distant inhabitants, dwell some vnder y^e Aequinoctiall, some vnder the Poles, some in more temperat Climats : some vpon the plains in Plano, some vpon the Mountains in Convexo, and some in the vallies in Concavo. Here you may see the Aequin-



octial dial the Mother of y^e rest, who hath the horizons of the paralel Sphere for her dubble Province, which suffer by course an half year's night: There the Polar dial wing'd with the lateral Meridian. Here you may behold the two fac'd Vertical dial which shakes hands with both Poles: There the Convex dial elevated in triumph vpon 4 iron arches: Here lastly the Concave dial which shews the Sun at noone the hemisphere of Night. In other dials neighbouring Clocks betray their errours, but in this consort of Dials informed with one Soul of Art, they move all with one motion: and vnite with their stiles the prayse of the Artificer."

The old dial which stands on a low pedestal in front of the manor house of Westwood near Bradford-on-Avon, appears from its shape to

have carried on the tradition of Kratzer's work. It is covered also with dial hollows of various shapes, and has been thought to date from the seventeenth century. It has possibly been moved of late years into its present position.

The dial-block at Great Fosters near Egham is of nearly the same shape as the above. It is about 2 feet high, 1 foot 8 inches wide, and 10 inches thick. It is placed on a pedestal built of alternate layers of stone of different size, after the style of the seventeenth century. All the faces of the block bear dials of different forms. At the top



GREAT FOSTERS.

there is a short column with an iron rod, on which there was once a weather vane. Standing, as this dial-pillar does, in the centre of a smooth green lawn bordered with flowers, and in front of a noble old red-brick Tudor mansion, with great elm trees round it where the rooks build, it looks a fitting accompaniment to a "haunt of ancient peace." The history of the dial is not known, but it is generally called "Sir Francis Drake's dial." In all probability the connection is not with the great sea captain, but with one of the Drakes of Esher Place, which, in 1583, was bought by Richard, third son of John Drake, of Ashe in Devon, the head of the family from which Sir Francis sprang. Richard Drake was succeeded by his son Francis, and he in his turn had a son Francis, who lived at Walton-on-Thames, and died in 1634. These places are only a few miles from Great Fosters House, which about

that time belonged to Sir Robert Foster, Chief Justice of the King's Bench, who died in 1663 and was buried at Egham. It is not clear when or from whom Sir Robert bought the place, but he was living there in 1643. Another tradition has it that the house once belonged to a Duke of Northumberland, who drew an armillary sphere, which still remains, on the staircase wall. This would probably be Sir Robert Dudley, son of the Earl of Leicester, on whom the title of Duke of Northumberland was bestowed by the Emperor Ferdinand. He was an ingenious mathematician,¹ and many clever instruments designed by him are preserved in the British Museum, at the Institute

¹ He was the author of a great work on instruments of navigation, "*Del Arcano del Mare*," fol., Florence, 1646.

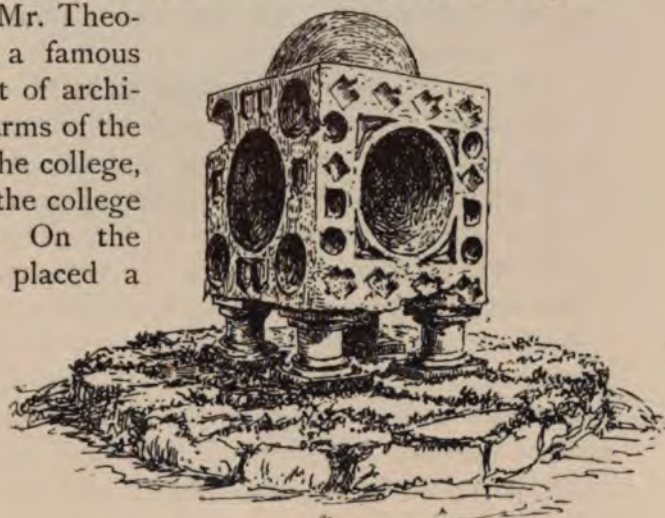
of "Studii Superiori" at Florence and elsewhere. The house itself claims a Tudor origin, for Queen Elizabeth's cipher is found there, and Anne Boleyn's badge, but its history cannot be certainly traced beyond Sir Robert Foster's time. The appearance of the dial and its pillar would lead us to connect it with the early part of the seventeenth century, and most probably with Mr. Francis Drake.

Among the entries in the college books of Gonville and Caius College at Cambridge in 1576, there is a notice of a pillar in a courtyard, which was "a stone of marvellous workmanship, containing in itself sixty dials, made by Mr. Theodorus Haveas of Cleves, a famous artist and notable exponent of architecture, blazoned with the arms of the nobles who then dined in the college, and dedicated by him to the college as a token of goodwill. On the summit of this stone is placed a winnowing fan, placed like a Pegasus."

The name of Theodorus Haveas has been found at King's Lynn, where he settled with his family. The pillar

was standing in 1769 when Loggan's views were taken, but the dials were gone.

The fine cube of stone which stands near the side entrance to Madeley Court, Shropshire, probably belongs to the end of the sixteenth or the early part of the seventeenth century. It stands on four short pillars, mounted on a circular platform, and approached by steps. There is a great concave on three of the four sides, surrounded by smaller hollows of different shapes, and the top is convex. Each of the hollows shows the hour at a certain time of day, and the position of the moon in relation to the planets can also be ascertained. The dials have no history, but the house, which is now divided into dwellings for colliers and their families, was bought from the last prior of Wenlock Abbey by Robert Brooke, Justice of the Common Pleas, and probably rebuilt by him. In the time of Charles I. it belonged to Sir David Brooke, a devoted Royalist and friend of the King; and Charles II. was concealed for a time in a barn at Madeley during some of his



MADELEY COURT.

wanderings. The convex or hemispherical dial is described by Sebastian Münster in his "Horologiographia," 1530.

In Walpole's "Anecdotes of Painting" it is stated that in 1619 the eminent sculptor Nicholas Stone made a dial at St. James's, the King finding stone and workmanship, for which he received £6 13s. 4d. "And in 1622," Stone says, "I made the great diall in the Privy Garden at Whitehall, for the which I had £46, and in that year 1622 I made a dial for my Lord Brooke, in Holbourn, for the which I had £8 10s." Also for "Sir John Daves, at Chelsea," he made a dial, and two statues of an old man and woman, for which he received £7 apiece.

The Privy Garden dials, executed by Stone, were, however, designed by Edmund Gunter, Professor of Astronomy at Gresham College, who in 1624 published a description and use of the same, which he dedicated to King James, praying him to accept these poor fruits of his younger studies when he was His Majesty's scholar in Westminster and Christ Church. The stone, he says, was of the same size as that which stood in the same place before, only that was of Caen stone, and this of one entire stone from Purbeck Quarry. The base was a square of more than $4\frac{1}{2}$ feet, the height $3\frac{1}{4}$ feet, and it was wrought with the like planes and concaves as the former, but many lines different and such as were not in before. There were five dials described upon the upper part, four in the four corners, and one, the great horizontal concave, 20 inches deep and 40 inches over, in the middle. The south side had one great vertical dial, two equinoctial dials, "whereon the sun never shineth but in winter," one vertical concave in the middle, two declining dials on either side of this concave, two small polar concaves, and two irregular dials with three styles in each dial. The east and west sides had each four great dials, plane, concave, cylindrical, and a square hollow of many sides, and on the north the lines were drawn so as to answer to those on the south side. There were also four triangular dials at the four corners. Latin verses explaining the lines and their colours were inscribed in each of the larger dials.

This fine and curious work was defaced in the reign of Charles II. by a drunken nobleman of the Court, on which occurrence Andrew Marvell wrote :

" For a dial the place is too unsecure,
Since the Privy Garden could not it defend ;
And so near to the Court they will never endure
Any monument how they their time may misspend."

A dial which appears to resemble in several points this work of Stone's or Gunter's, is at Badminton House, Gloucestershire, and has lately been remounted on stone steps and placed in front of the church. Nothing is known of its history, but it is probably early seventeenth century work. There is a "great concave" at the top, with a hole near the bottom for the rain-water to run out, and around the top the hours are marked in Roman numerals, the signs of the Zodiac being carved above them, while the sides are covered with dials of different forms,



BADMINTON HOUSE.

hollowed and plane. Badminton House was not built till 1682, but it is possible that this dial may have been brought from Raglan Castle, and if so, its construction and ownership may be connected with two loyal friends and supporters of Charles I., the first and second Marquesses of Worcester. The second marquess, known also as Earl of Glamorgan, was not only a gallant soldier, but a man of science and a mechanic, and has left the record of his discoveries in his "Century of Inventions."

The fancy of Charles I. for sun-dials was well known. Mr. Oughtred, the mathematician, on being asked by Elias Allen, one of the King's servants and a noted instrument maker, to advise him as to a suitable gift for His Majesty, replied that he had "heard that His Majesty delighted much in the great concave dial at Whitehall, and what fitter instrument could he have than my horizontal, which was the very same represented in flat?"

Horace Walpole, in his "Anecdotes of Painting," gives a copy of a

bill of John de Critz, serjeant painter to His Majesty, wherein the colouring of a dial, opposite some part of the King and Queen's lodging, is described at some length.

"For several times oyling and laying with fayre white a stone for a sundyall . . . the lines thereof being drawn in several colours, the letters directing to the howers guilded with fine gould, as also the glorie, and a scrowle guilded with fine gould where the numbers and figures specifying the planetary howers are inscribed ; likewise certaine letters drawne in black, informing in what part of the compasses the sun at any time there shining shall be resident, the whole works being circumferenced with a fret painted in manner of a stone one, the complete measure of the whole being six foot."

Critz also repaired pictures by Palma and Titian, and yet was not above painting the royal barge and coach.

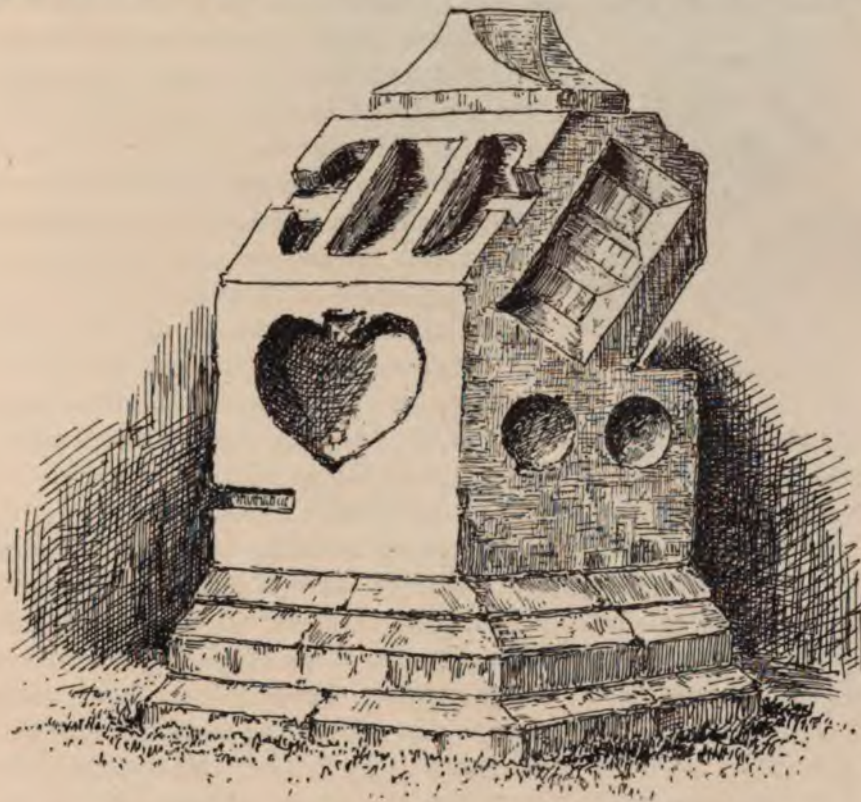
The catalogue of goods from Oatlands Palace, belonging to Charles I., which were sold under the Commonwealth, includes : "Two stone sundyalls with a wooden seat at y^e end of y^e arbour, valued £3. Sold Mr. Lavender 29 March 1649 for £2 . 0 . 6^d."

Amongst the king's goods offered for sale at Greenwich was "a great stone sundyal, valued at £30." A purchaser does not appear to have been found for this.

To the Great Fire of London in 1666 we probably owe the destruction of Dr. Donne's sun-dial, which he set up at the deanery of St. Paul's, and which he mentions in his will : "My will is that the four large pictures of the four Great Prophets which hang in the hall, and that large picture of ancient church work in the lobby, and whatever else I have placed in the chapel (except that wheel of Deskes which at this time stands there) shall remain in those places, as also the marble table sonnedyal and pictures which I have placed in the garden, and an inventory thereof to be made and the things to continue always in the house as they are." All are gone now ; the deanery was swept away by the Fire, and not a vestige of Dr. Donne's legacies remain.

In the garden, or rather orchard, of what was formerly the manor house of Upton near Peterborough, there stands a fine monumental dial-stone of the seventeenth century. Upton was once the property of Thomas Dove, Bishop of Peterborough, whom Queen Elizabeth called her "Dove with the silver wings," and who died in 1630. His son, Sir William Dove, inherited the place, and lies buried in the little church or chapel hard by, where there is a noble monument to him and his two wives. The three figures, life size, lie under a canopy, and traces of the original colour can be faintly seen under a modern coating of drab paint.

The dial has, fortunately, only been repaired so far as to fasten securely a top stone, which was formerly movable, and covered a concave dial. The whole block is 5 feet 10 inches in height, and 3 feet 4 inches in width at the base moulding. The upper part of the south side is sloped lectern wise; the vertical portion has a heart-shaped hollow. East, west, and north have their several dials, now



UPTON, NORTHANTS.

overgrown with lichen, but it is not many years since the numerals could be distinguished. Not far off from this fine old dial-stone is the stem of a mulberry tree, said to have been planted in Queen Elizabeth's time, and near it are the remains of the old terraces of the garden. Of the manor house only the kitchen is left; its wall is 6 feet thick, and the ivy growing over it has a stem which, from its size, must be some centuries old. The dial was described and sketched with great detail a century ago,¹ and it still stands, little altered, in the midst of the quiet fields and old-world surroundings of an out-of-the-way little hamlet.

¹ Gibson and Gough's "Castor," "Bib. Top. Brit.," x. 1795; Bridge's "Hist. of Northamptonshire"; "Anastatic Drawing Soc.," vol. xxiv.

A stone somewhat resembling this at Upton, but which has met with much worse treatment, is now mounted on the gate-post of a farm-yard at Patrington, Yorkshire. It is also of the lectern shape, with an oblong hollow on the slope to the south, and a heart-shaped one below. There was once a concave at the top, and oblong, triangular, and circular hollows on the east and west sides; these are all much worn away. The history of the stone has been traced back to 1770, when it was



PATRINGTON.

taken out of the remains of an old house which appeared to have once belonged to the Hildyard family. Sir Robert Hildyard, of Patrington, who died 1685, was a Cavalier who fought in the wars on the King's side, compounded for delinquency under the Parliament, and at the restoration of Charles II. was created a baronet. From the appearance of the dial, as well as its history, it would seem likely that it was set up by the old Cavalier in his garden

at Patrington, and probably before those civil wars which brought him into close contact with the great lover of dials, Charles I., to whom he was made Gentleman of the Privy Chamber in 1642.¹

There are two curious old dial-stones standing in the churchyard at Elmley Castle, Worcestershire. One of these is placed on the eastern side of the burial ground, and is a cube of 1 foot 10 inches, rising to a blunt point, and surmounted by a globular-shaped top; it is covered with hollows of different forms. In several of these hollows there remains a thin iron rod, once the gnomon; in others the rods are beaten flat upon the stone, which is much worn away. The whole height of the dial does not exceed $3\frac{1}{2}$ feet. On the plane surfaces of the stone, which is bevelled off at the sides, the remains of two gnomons may be traced by the lead with which they were fixed. Two of the hemispherical hollows have an iron rod fixed across them, and two other hollows contain their metal gnomons, tolerably perfect. When the examination and sketch of this dial was made, about 9 inches of soil had to be cleared away from its base. This was done some years ago, and since then the dial has suffered from weather and school-children, and is much defaced.

The other dial stands near the north-west angle of the churchyard, and is erected on the base and one of the steps of the old cross. On

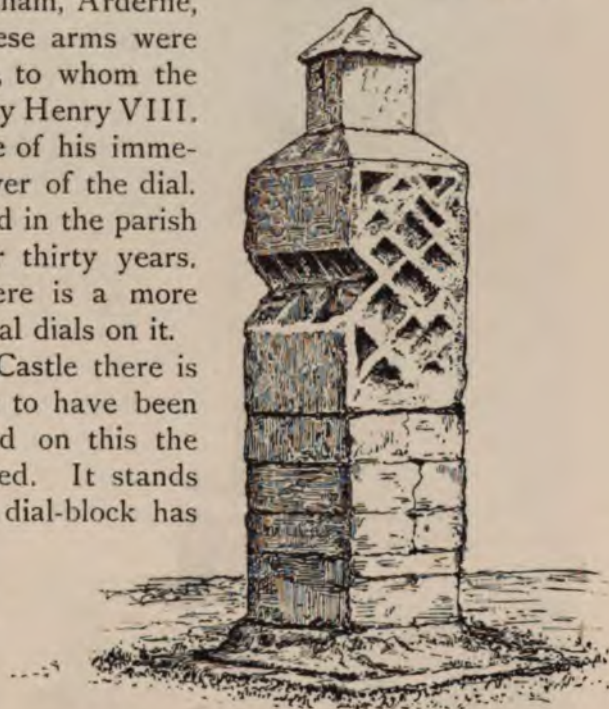
¹ "Transactions of the East Riding Antiquarian Society," vol. v., "Notes on a Sundial at Patrington."

this foundation there are six courses of stone masonry, rising 2 feet 6 inches in height, and above them is a stone so similar to the dial just described, that it has been conjectured that they might once have formed one structure. Three of the sides have hollows of different shapes, and on the fourth, the north side, is a large shield bearing the arms of Savage, with numerous quarterings; as Walkinton, Danyers, Swinerton, Beke, Stanley, Latham, Arderne, Bagot, Basset, Camvill. These arms were borne by Christopher Savage, to whom the manor of Elmley was granted by Henry VIII. It seems likely that he, or one of his immediate descendants, was the giver of the dial. The family of Savage held land in the parish till within the last twenty or thirty years. At the top of this pillar there is a more modern block, with four vertical dials on it.

In the village of Elmley Castle there is a cubical dial on what seems to have been the shaft of an old cross, and on this the date ADOM CDCXLVIII is inscribed. It stands where two roads meet. The dial-block has unfortunately been placed upside down, probably at the last "restoration." One might read the inscription as A. DO. MDCXLVIII, which would be a very probable one for the placing of a dial-stone on the cross, but not in its present inverted condition.

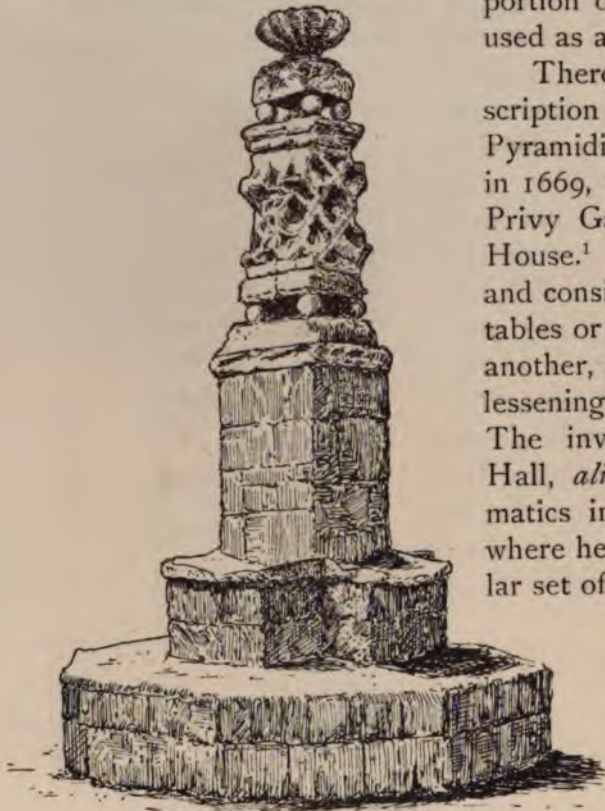
A dial of the same type as that which bears the Savage arms has been built into the market cross at Wilton. Some part of one of the gnomons remains, but the stone has long ceased to be used as a dial, and we have been unable to find out its history, or even to ascertain when the curious heterogeneous construction which goes by the name of "cross" was erected.

The most beautiful and perfect of all known English dials of this class is at Moccas Court, Herefordshire. It is thought to belong to the reign of Charles II., and was first set up at Mornington Court on the opposite side of the Wye, once the property of the Tompkins family. When this estate came into the possession of the Cornwalls, now represented by the Rev. Sir George Cornwall, Bart., the dial



ELMLEY CASTLE CHURCHYARD.

was brought to Moccas. It has several mottoes carved upon its sides, which will be found further on in this work. A dial-stone resembling this one, but in much worse condition, was once to be seen at Kinlet near Bewdley, but from inquiries lately made it seems that only a portion of it remains, and that is now used as a vase for holding plants!



WILTON CROSS.

There has been more than one description published of the "Marvellous Pyramidical dial at Whitehall," set up in 1669, by order of Charles II., in the Privy Garden facing the Banqueting House.¹ It stood on a stone pedestal, and consisted of six pieces in the form of tables or hollow globes, placed one above another, standing on iron branches, and lessening in size as they neared the top. The inventor was the Rev. Francis Hall, *alias* Lyne, professor of mathematics in the Jesuit college at Liège, where he had previously erected a similar set of dials, which, in 1703, were re-

ported to be "shamefully gone to decay." This pyramid is said to have contained no less than 271 different dials, some showing the hours according to the Jewish, Babylonian, Italian, and Astronomical ways

of reckoning, others with the shadows of the hour lines falling upon the style; some showing the hour by a style without a shadow, and others by a shadow without a style. There were also portraits on glass of the King, his Queen, and the Queen Mother, the Duke of York, and Prince Rupert. Perhaps the most unusual feature was a bowl which told the time by fire. This was about 3 inches in diameter, and was placed, filled with water, in the middle of another sphere, measuring about 6 inches across, and consisting of several iron rings which represented the circles of the heavens. By applying the hand to these circles when the sun shone, the enquirer would

¹ "Tractates," by W. Leybourn, 1682; Holwell's "Clavis Horologicæ," 1712; "The Mirror," No. 400, 1825.



SUN-DIAL AT MOCCAS COURT, HEREFORDSHIRE

(See No. 1469, p. 448.)

feel the burning effect of the sun's rays which passed through the water bowl and struck upon the ring whereon the true hour was shown. This ingenious and fantastic construction, in faulty taste, for it was more curious than pretty, was ill adapted to resist the weather, for Mr. Leybourne complains, in 1689, that "the Diall for want of a cover, was much endamaged by the snow lying long frozen upon it, and that unless a cover were provided (of which he saw little hope), another or two such tempestuous winters would utterly deface it." Mr. Timbs says that, about 1710, William Allingham, a mathematician in Cannon Row, asked £500 to repair this dial, and it was last seen by Vertue at Buckingham House, from whence it was sold. Father Lyne's own description of this work was published in 1673, and is illustrated by seventy-three plates. An engraving of it may also be seen in Leybourne's Works.

CHAPTER VII

CYLINDRICAL, GLOBE CROSS AND STAR-SHAPED, FACET-HEADED, AND HORIZONTAL DIALS

“Stands it not by the door—
Love’s Hour— . . . ?
Its eyes invisible
Watch till the dial’s thin-thrown shade
Be born,—yea, till the journeying line be laid
Upon the point that wakes the spell.”—D. G. ROSSETTI.

PERHAPS the most notable features of the dials just described are the hollows—round, heart-shaped, or angular—which distinguish them. Some such hollows are found again on the lectern-shaped dials, but the most distinguishing mark of these is the half cylinder, with which plane dials, generally reclining and proclining, are combined. One such block, surmounted by a ball on which hour lines are also traced, is in a garden at Cheeseburn, Northumberland, mounted on a pedestal. It was drawn by Mr. R. Blomfield for his “Formal Garden,” and Messrs. Macmillan have kindly allowed the reproduction of the sketch. Cheeseburn came into the family of the present owner, Mr. Riddell, through the marriage, in the eighteenth century, of Mr. Ralph Riddell with the heiress of the Widderingtons, to whom the place belonged. The dial strongly resembles some of the Scottish examples. A very similar stone is on the gable of the church at Hartburn, in the same county.

Another cylindrical dial, surmounted by a cherub’s head, not unlike those seen in Scottish sculpture of the eighteenth century, is in the Antiquarian Museum in the castle, Newcastle-on-Tyne. At the back of the stone there is an old man’s head, and on either side the halves of a north polar dial. Below these are two small hollowed dials, a plane dial, and a vertical north dial, with a stone gnomon; and on the south side a plane vertical south dial with a stone gnomon below the half cylinder. On the east and west sides are two flattened hemispheres with metal gnomons.¹

¹ “Arch. Æliana, Pro.,” 1891-94.

Mr. Warrington Hogg saw a modern example of the same type in the little village of Denton near Canterbury, and sketched it for "The Strand Magazine."¹ It had been made some fifty years earlier by Richard Webb, a master mason, and was mounted on a fine pillar of



HARTEBURN.



NEWCASTLE MUSEUM.

red brick, built in a spiral form, and of beautiful workmanship. Mr. Hogg also describes the dial in the deanery garden at Rochester. This is shaped like a short thick anchor, the hour lines being drawn on the cylindrical hollows of the sides. It stands on a pedestal, and marks the boundary between the parishes of St. Margaret and St.

¹ June, 1892.

Nicholas. The dial and pedestal, of grey stone, are together about 5 feet 6 inches in height, and on the south side is fixed a table of equations engraved on metal. Another stone sun-dial shaped like an

anchor is in the garden of Pennsylvania Castle, Isle of Portland. It was made about the year 1830.

A double cylindrical dial may be seen in a garden at Fellside, Essex, placed on an ivy-covered pedestal. Mr. G. Yarding, the owner, writes that it came into his father's possession in 1828, and had previously stood on the lawn of an old mansion which had belonged to an engineer of scientific tastes, who had probably set up the dial. Another specimen of this kind was shown at the Loan Exhibition at the Midland Institute at Birmingham, in 1897. It belonged to

Mr. Osler, who was always much interested in sun-dials, and who had this reproduced in marble from a drawing of one that he had seen, very much broken, in 1842, at Hastings Castle.

The semi-cylindrical hollow is also seen on a small stone which stands about 7 or 8 inches high, and was discovered in the centre of a wall at Wigborough House, Somersetshire. It is now in the museum at Taunton. The stone is said to be a hard

freestone from the Mendip quarries. There is a semi-cylindrical dial on each side, and one on a reclining plane at the top. The hour lines and some of the numbers can still be seen painted in the hollows. The dial, no doubt, stood on a small pillar, or wall, so that



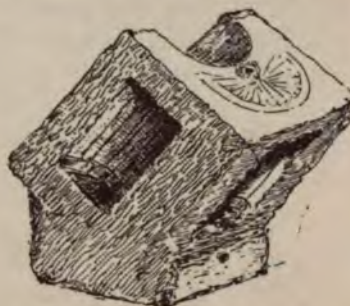
In Deanery
Garden,
Rochester.

the four sides could be seen, and probably dates from the seventeenth century.

There is surely no more curious little specimen of a hollow cylinder



FELLSIDE.



DIAL FROM WIGBOROUGH HOUSE.

than that which is cut on an upright gravestone in Saxmundham Churchyard. It is only 3 inches long, and marks the afternoon hours. The bodies of John Noller and Mary his wife rest below. Some few years ago the late Mr. George Roberts described in his "History of Loft-house" a curious dial, partly cylindrical, which he had seen at Hartshead Church, Yorkshire. The stone was cubical, fixed in a low position at the south-east corner of the nave, and on the south face there was an erect dial, while the east and west sides were deeply hollowed vertically, and the light was cut off by the sharply-chiselled edges of the stone. A horizontal dial inscribed "N.N., 1611," is on a pedestal in the churchyard.



SAXMUNDHAM CHURCHYARD.

Another cube of stone with a concave dial on one face is on a pedestal in Mr. Hunter's garden at West Boldon, co. Durham, and on the top of this cube there is a semi-cylindrical dial placed in a sloping position.

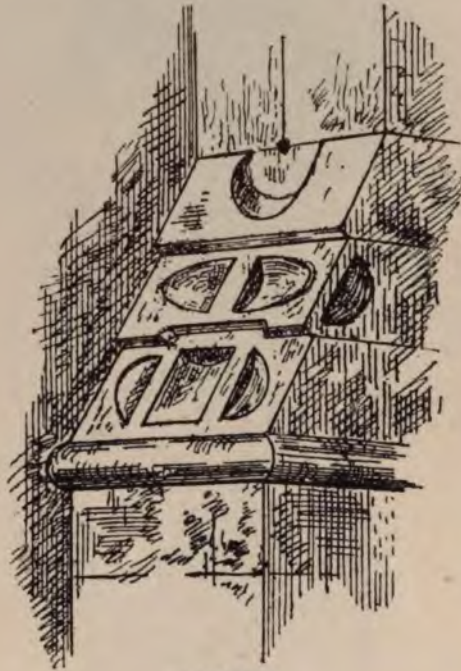
There are sunk dials of the cylindrical form on the south buttress of the chancel of Bleadon Church, Somerset. The chancel belongs to the Decorated period, and one of the dials closely resembles that on the sloping face of the Upton dial (see *ante*, p. 97). They were sketched for the "Antiquary"¹ by Mr. J. L. André, F.S.A., and we have been allowed to reproduce the illustration.

¹ December, 1893, vol. 28, No. 48, N.S.

The next form of dial which comes under our notice is the convex or globular type. We have not many examples of this type, though we hear that it has been revived, and some globe dials made and set up within the last few years.

Joseph Moxon in his "Tutor to Astronomie" (1659) describes a "Dyal upon a solid Ball or Globe, that shall shew the Hour of the day

without a gnomon," and says that a "Dyal of this sort was made by Mr. John Leek, and set up on a composite columnne at Leadenhall Corner, London, during the mayoralty of Sir John Dethick, K^t," in 1655. The column was flanked by four statues of women in caps and kirtles, and formed the centre of a fountain. It was reproduced in "Old London" in the Health Exhibition in 1884, and is figured in Chambers' "Book of Days."



BLEADON.

Moxon also gives an example of a glass globe dial borne on the shoulders of Atlas, which stood in the garden of Robert Titchborn, another Lord Mayor of London. The dial was made by dividing the middle or equinoctial circle into 24 equal parts, marked with two sets of figures from

1 to 12, and the globe then set according to the latitude of the place, with one 12 line to the north and the other to the south. A figure of Atlas resting on one knee and bearing a globe dial stood for some time in the grounds of Gloucester House, Walworth, but was destroyed many years ago. A statue of Atlas, which probably bore a sun-dial, stood once in that part of the gardens of Wadham College, Oxford, which was laid out in 1650 by the then warden, Dr. Wilkins, and is shown in Loggan's engravings. It was blown down by a high wind in 1753 and broken to pieces.

In the courtyard of Lewes Castle there is a stone ball on a pedestal which shows signs of having been covered with dial lines, and has some holes where gnomons were once fixed. It has been broken and mended with mortar, and was presented about fifty years ago to the Sussex Archæological Society. Its history is not known.

A globe bearing some resemblance to the above, but made of metal and marked with eight or ten hexagonal dials painted on the metal, and with curiously pierced gnomons, is at present in the possession of Messrs. Barker and Son, Clerkenwell Road. It stands about 3 feet high, and has apparently been placed on a pedestal and surmounted by a vane, for which there is a large hole at the top of the globe. Each dial marks the time at a different place—Amsterdam, Jerusalem, Rome, Madrid, Paris, etc., and ending with Fort St. George and "Port Sir Francis Drake." No English place of note is named. It is evidently eighteenth-century work.

A handsome dial mounted on steps, in the gardens of Ford Castle, Northumberland, had the appearance, in a small sketch which we have seen, of a globular dial, though it may possibly have been facet-headed. Globe dials are sometimes found surmounting a block of vertical ones, as at Knowsley and other places.

Cross dials have been revived of late years, and the Rev. R. W. Essington, late vicar of Shenstone, composed for one which he put up, some singularly beautiful and appropriate lines which will be found in the collection of mottoes. The shape is that of a Latin cross, placed slanting, so that the shadows from the angles fall on the sides where the hour lines are drawn, and no gnomon is needed. Mr. Ross¹ gives an example of one at Scotsraig, Fifeshire, which stood in the courtyard of the old mansion house built by Archbishop Sharp in 1667. The family of Sharp were in possession of the estate of Scotsraig for nearly a hundred years, and there is every reason to believe that the dial, which is of a close-grained brown stone, probably some form of sandstone, belonged to the Archbishop of St. Andrews—



SCOTSCRAIG.

"Him whom butchers murdered on the field of Magus Muir."

His arms and initials, A. I. S., are over the entrance gate. He was assassinated by a party of Covenanters in 1679.

A cross dial made of iron stood formerly at the south corner of Middle Moorfield, by Moorgate, in London. It was fixed on a stone bearing this inscription: "This dial was placed here as a Boundary of

¹ "Castellated Architecture of Scotland," vol. v.

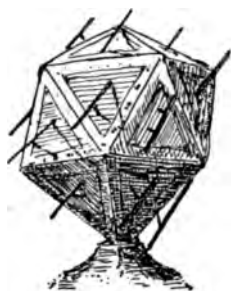
the Parish of St. Stephen, Coleman St., in the memorable year 1706, in the 9th year of the glorious reign of our most gracious Sovereign, whom God long preserve."

A cross dial on a stone pedestal, copied from the Shenstone dial, but without a motto, has been erected at Hamstall near Rugeley. It is in the churchyard, and stands on a pavement made partly of smooth river-stones, and partly from some beautiful old tiles found in the church. The cross is of white marble, and the pedestal is an alabaster one which formerly supported a font in the church, and was removed from thence about 1868. A dial of the same type was placed, by the late Rev. Charles Page Eden, in the garden of Aberford Vicarage, Yorkshire; and the Rev. T. Parnell removed one from King's Hill near Dursley to his garden at Staverton Vicarage, Gloucestershire.

At Whitton Shields, Northumberland, a cross dial is placed below the east window of the chapel which belongs to the old house of the Thornton family; and at Naburn Hall near York, one made of oak, projecting from a wooden post, has lately been placed in the garden. There are cross dials also at the Manor House, Rochdale; and Lumley Castle, Durham.

Some few years ago a dial in the form of a star, placed before a cottage at Hanslope in Northamptonshire, attracted the notice of a passer-by. It had been set up by the postmaster, who was said to have made several others and put them up in different parts of the country. They were reproductions of an old form, which is to be found in Schöner's book.

The "facet-headed" dials, or stone blocks which are cut into a variety of plane surfaces and have a dial on each plane, are not uncommonly found mounted on a pillar and adorning a garden. One of these, mounted on steps, is in the garden at Heslington Hall near York, and harmonizes well with the architecture of the fine old house and the quaintly-cut yew trees near it. There is no date on the pillar. Another stone, consisting of "twenty equilateral triangles, so disposed as to form a similar number of dials," was made in 1813 by George Boulby, a working mason.¹ It was bought by Mr. Waterton, the naturalist, and set up at Walton Hall near Wakefield.



WALTON HALL.

In the Duke of Newcastle's garden at Clumber, betwixt the house

¹ This form is technically known as an "icosahedron."

and a fine marble fountain that was brought from Italy, is a pedestal on which are two iron hoops about a yard in diameter, placed transversely one inside the other, with a rod across the middle. In the centre of this is a knob, which, when the sun shines, throws its shade on the figures that are marked with gold within the hoops. A dial, which from its description seems to be an equinoctial ring dial like the foregoing, and stands on the head of a stone figure of Atlas, is at Oakley Park in Shropshire. Similar dials have been made of late years, both for gardens and also of smaller size, to stand on a window-sill or a table.

The detached dials with which everyone is most familiar are, of course, those horizontal plates which are mounted on pedestals or short columns, and have often the additional interest of being engraved with curious devices and mottoes. They were, perhaps, the latest in chronological order; our oldest specimen (from the churchyard of Woodplumpton in Lancashire), has the date 1598 on the plate; but they were probably used a century earlier. Being made of metal, they were more durable than the vertical dials carved or painted, as they often were, on walls; and the pedestal might be either simple and cheap, or of artistic design and elaborately sculptured. When the formal garden came into fashion a sun-dial became the central object on a grass plot, or on a gravel walk where several paths converged. It is thus that we meet with it in poetry and in painting. Lovers make it their trysting-place, or the forlorn damsel watches sadly where

“ . . . round the sundial
The reluctant hours of day
Heartless, hopeless of their way,
Rest and call ”;

or the old retainer sits on the step where grass grows up between the stones, and thinks of bygone days; or the student moralizes beside it. The dial has become suggestive and picturesque, therefore its days have been prolonged. It is still wanted for the garden and the grass plot. Old dials, torn from their original resting-places, are frequently to be seen in the London curiosity shops; new ones make their appearance in provincial exhibitions. It is only from the churchyard that the sun-dial disappears; the plate gets loose and is stolen, the stones give way and are pushed aside; it is not thought worth restoring: there is a new clock; away with the dial!

The pedestal admits of great variety of treatment. Sometimes it is a kneeling figure, supporting the dial with hands and head. Such a figure, usually spoken of as “The Moor,” stood for many years in the garden of Clement’s Inn. Peter Cunningham, in his “Handbook of

London," supposes it to have been brought from Italy by Lord Clare, but Mr. Timbs' account appears to be more correct. "There were in the eighteenth century," he says, "statuaries who made figures in lead, and whose yards lay between Piccadilly, Devonshire House, and Park Lane, and a favourite design of one of these men, John Van Nost, who came over with William III., was that of an African kneeling, with a sun-dial on his head; the last owner of his yard, John Cheere, died in 1787." The date on this dial plate is 1781; the designer, no doubt, inherited John Van Nost's traditions. The figure is of bronze, and was at one time painted black, when a wag stuck on to it the following lines:

"In vain, poor sable son of woe,
Thou seek'st the tender tear;
From thee in vain with pangs they flow,
For mercy dwells not here.
From cannibals thou fled'st in vain;
Lawyers less quarter give:
The first won't eat you till you're slain
The last will do't alive."

At the sale of the property of Clement's Inn in 1884, the dial was bought by Mr. William Holmes and presented to the Society of the Inner Temple, and it now stands in the gardens, on the terrace by the Thames Embankment.

A leaden figure of Time kneeling, supporting a sun-dial on his head, is on the lawn at Flaxley Abbey in Gloucestershire. The stone statue of Time carrying off the dial, on the terrace at Duncombe Park, is noticed in the collection of mottoes.

Mr. Blomfield, in his "Formal Garden," describes a fine dial at Wroxton Abbey, Oxon, where the plate is fixed on "a moulded circular top carried by four draped female figures, who stand on a square pedestal, the angles of which are decorated with rams' heads, and swags of fruit and flowers." The figures may possibly represent the four seasons, as do those round the dial in the Dane John at Canterbury, where the shaft is mounted on a square base, thus raising the dial to a considerable height. In 1895 a fine dial of this kind was set up in the grounds of Whatton House near Loughborough. It is supported by four figures of the Muses, Clio, Euterpe, Erato, and Urania, and mounted on steps.¹

There is no record left to tell us the form of the dial, "once of great renowne," and now only remembered by the name "Dial Walk," in the

¹ The designers were Messrs. Brewill and Baily, architects. See "The Builder," October 19, 1895.

private gardens of Kensington Palace ; nor of that erected on Richmond Green by Queen Caroline, wife of George II., which was still standing in 1776, and said to be "of a pretty taste, and encompassed with seats."

There is a dial on a plain pedestal at Kew Palace remarkable for the stone base on which the pillar rests. It is inscribed as follows :

ON THIS STONE IN 1725, THE REV^d. JAMES BRADLEY MADE THE FIRST OBSERVATIONS WHICH LED TO HIS TWO GREAT DISCOVERIES, THE ABERRATION OF LIGHT AND THE NUTATION OF THE EARTH'S AXIS. THE TELESCOPE WHICH HE USED HAD BEEN ERECTED BY SAM^l. MOLYNEUX, ESQ^{re}, IN A HOUSE WHICH AFTERWARDS BECAME A ROYAL RESIDENCE, AND WAS TAKEN DOWN IN 1803.

TO PERPETUATE THE MEMORY OF SO IMPORTANT A STATION THIS DIAL WAS PLACED ON IT IN 1832, BY COMMAND OF HIS MOST GRACIOUS MAJESTY KING WILLIAM THE FOURTH.

A relic of old London Bridge has been preserved and mounted with a dial, as the following letter from the Rev. C. W. Jones, who wrote from Pakenham, Suffolk, in 1895, informs us :

"I have a dial in the Vicarage garden erected on one of the balustrades of old London Bridge, which my father got when the bridge was taken down in 1832, and have set it on a square base, inscribed as follows :

PONTIS LONDINENSIS. A.D. MDCLXXXVI EXTRUCTI, A.D. MDCCCXXXII DIRUTI.
Columella sto superstes. [*I survive, a little column.*]

One of the balustrades of old Rochester Bridge was made use of for a like purpose by Charles Dickens. The sun-dial stood in the garden at Gadshill, and after the death of the novelist was bought by Mr. Crighton, of Rochester.

Part of the shafts of crosses which were "stumped" at the Reformation have often been made use of to support horizontal dials. At one time a dial plate was on the base of the cross at Woodchurch, Cheshire. The dial was removed in 1889, and the upper part of the cross was restored by the rector. He added the following inscription : "I used to show the hours which pass away, but now I point to that which is eternal."

In the garden at Selborne, where Gilbert White lived, there is a pedestal dial which is said to have been put up and used by White himself. It has no date.

Another dial associated with an imperishable name in English

literature is that which was given to William Cowper by his friend the Rev. J. Johnson, and the following letter of thanks (which we owe to the kindness of Mr. Thomas Wright, principal of the Cowper School at Olney) gives particulars as to how the present was made :

"Sept. 4, 1793.

"MY DEAREST JOHNNY,—

"To do a kind thing, and in a kind manner, is a double kindness, and no man is more addicted to both than you, or more skilful in contriving them. Your plan to surprise me agreeably succeeded to admiration. It was only the day before yesterday that, while we walked after dinner in the orchard, Mrs. Unwin between Sam and me, hearing the Hall clock, I observed a great difference between that and ours, and began immediately to lament, as I had often done, that there was not a sun-dial in all Weston to ascertain the true time for me. My complaint was long, and lasted till, having turned into the grass-walk, we reached the new building at the end of it, where we sat awhile and reposed ourselves. In a few minutes we returned by the way we came, when what think you was my astonishment to see what I had not seen before, though I had passed close by it—a smart sun-dial mounted on a smart stone pedestal! I assure you it seemed the effect of conjuration. I stopped short and exclaimed, 'Why, here is a sun-dial, and upon our ground! How is this? Tell me, Sam, how came it here? Do you know anything about it?' At first I really thought (that is to say, as soon as I could think at all) that this factotum of mine, Sam Roberts, having often heard me deplore the want of one, had given orders for the supply of that want himself, without my knowledge, and was half pleased and half offended. But he soon exculpated himself by imputing the fact to you."

After Cowper left Weston Underwood (where the dial was erected) the sun-dial was removed by the Throgmortons to the hall where they lived, and in 1828 it was placed where it now stands, in the garden of the priest's house, on or near the site of the porch that belonged to the west front of the mansion. It is inscribed: "Walter Gough, No. 21, Middle Row, Holborn, London."

A dial, which is said to have been calculated by Sir Isaac Newton, stands in the garden at Cranbury Park, Hants. The gnomon is pierced with the letters I. C., and the arms of Mr. Conduitt, the owner, as granted to him in 1717, are engraved on the plate with his motto: "*Cada uno es hijo de sus obras.*" [*Each one is the son of his deeds.*] The maker's name, John Rowley, is below. Mr. Conduitt married Sir Isaac Newton's niece, and succeeded him in his office of Master of the Mint. In his later years the great astronomer made his home at Cranbury.¹

A dial connected with the ancestors of George Washington was noticed in the "Athenæum" for June 24th, 1899. This was found in the garden of what is known as the "Washingtons' House," Little Brington, Northants, a house which was no doubt occupied at one

¹ "John Keble and his Parishes," C. M. Yonge.

time by the Washingtons of Sulgrave. Over the door of the house is the inscription: "The Lord giveth and the Lord taketh away, blessed be the name of the Lord; constructa 1606." This date would coincide with the change of fortune which brought the family to Little Brington. The dial is horizontal, and is cut on a round slab of sandstone $16\frac{1}{4}$ inches in diameter; the numerals are placed so as to be read from the inside, and between the hours of 4 a.m. and 8 p.m. are the Washington arms: argent, two bars and in chief three mullets (gules), with the date 1617 and initials R. W., somewhat defaced. In the centre of the shield there appears to have been a



DALSTON.

crescent, the mark of the second son, which would point to Robert Washington, second son of Lawrence Washington of Sulgrave, as the owner of the dial. He died in 1622, and was buried in Brington Church; and his nephew Lawrence, rector of Purleigh, Essex, was father of the two brothers, John and Lawrence Washington, who sailed for Virginia in 1657.

In an old farmhouse garden near Dalston, Cumberland, there stands a picturesque old dial with a serpent twined round the stone pedestal.

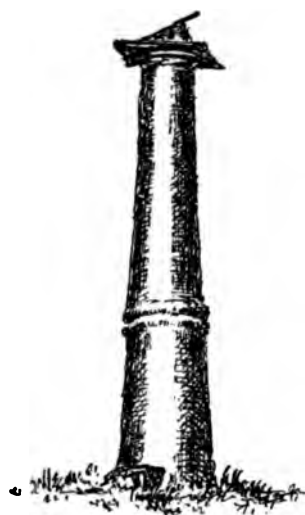
A stone shaft in Bradbourne Churchyard, Derbyshire, bearing a

horizontal dial of brass, has certain regimental badges cut on the cap, showing that the dial was set up by Captain Thomas Buckstone, who fought at Culloden in 1745. In the garden at Bradbourne Hall, the ancient seat of the Buckstone family, there is another dial entirely of stone, except the gnomon, dated 1740, and by the same maker.

A sun-dial in the Italian garden at Newstead Abbey, Notts, is mounted on a unique pedestal, viz., the white marble capital of a pillar brought from the Temple of Venus at Athens. The history of the capital is inscribed on the dial plate.

A stone pedestal of classic mouldings in the formal garden at Canon's Ashby, Northants, the seat of Sir Henry Dryden, Bart., bears a sun-dial with the Dryden arms engraved on it, and the maker's name "Jones, Holborn." It is certainly of later date than the pedestal, which was set up about 1710, the garden having been laid out by Edward Dryden in 1700.

Dial plates are often found with coats-of-arms engraved on them, and are sometimes very fine specimens of the engraver's art. A beautiful eighteenth-century specimen is at West Wycombe Park, Bucks, bearing the arms of the Lord Despencer of the day upon it. Another fine plate at Staverton Court, Gloucestershire, has the shield of Sir William Strachan, Bart., and the name of "Thomas Wright, Instrument maker to his Majesty George II." The Fortescue arms are found on the dial in Ripple Churchyard, Gloucestershire, with the name of the maker, "Nath: Witham, Chancery Lane, London."



ST. MARY'S, SCILLY.

The late Mr. Bridgeman Simpson brought a very beautifully engraved dial plate from Stoke Hall, Derbyshire, and placed it on a pedestal in his garden at Babworth Hall, Notts. Perhaps the designs on these plates are most often heraldic, but emblematic figures and arabesque patterns are sometimes found on them. Messrs. Barker, of Clerkenwell Road, have lately engraved a handsome plate on which the tables of the equation of time are disposed in separate columns, according to the months, between flowers appropriate to the different seasons of the year. The gnomons also can be made very ornamental, when pierced, or supported by scrollwork of graceful design.

There is great scope for the artist in the treatment of horizontal dials, both in the adornment of the plate and the sculpture of the pedestal, but we will not be led astray into these paths of art. One

more pedestal alone shall be noticed, and it is of a severely simple character.

In the first edition of "The Book of Sundials," published 1872, Mrs. Gatty wrote: "At St. Mary's, the largest of the Scilly Isles, and near the fort called 'Star Castle' (if we remember the spot where we sketched it), is an old cannon stuck upwards in the ground, and over its mouth a dial plate is fixed. What storms must have broken upon it in that tempestuous region! What hurricanes must have blown around! What dark nights covered it! And yet, whenever the sun shines, and cheerfully as if no disturbance ever reached it, the dial face becomes bright again, and the gnomon sends its shadow round the plate."

CHAPTER VIII

VERTICAL DIALS, DETACHED

"A Dial is the Visible map of Time, till whose Invention 'twas follie in the Sun to play with a shadow. It is the anatomic of the Day; and a scale of miles for the journe of the Sun. It is the silent voice of Time, and without it the Day were dumbe. It is a Spheer stolen from Heaven whose little circle is the Sun's day labour. It is the book of y^e Sunn on which he writes the Storie of the day. It is the traveller's Ephemerides: and an enimie to envious Time that would steal away and have none to take notice of her. Lastly heaven itself is but a generall Dial, and a Dial it in a lesser volume."—R. HEGGE'S MS., *Heliotropum Sciothericum*.

FROM the year 1520 to 1744 a pillar bearing a cubical stone with dials on its four sides, crowned by a pyramid with ball and cross, stood on the churchyard wall of St. Mary's, Oxford, and is figured by Loggan (1688). It was the work of Nicholas Kratzer, and his stonemason East. In his MS., "De Horologis," Kratzer gives a copy of the inscription, which contains his own biography and an explanation of the dial lines in verse, not unlike Gunter's description of the lines on the Privy Garden dial at Whitehall. The Latin is illspelt and imperfect, very difficult to render into English; some passages therefore can only be given conjecturally:

"Anno 1520 Ego Nicolaus Krasterus bauarus monacensis natus servus regys Henricy viij jussu illius per-legi Oxoniae Astronomiam suple spheram materialem Johannis de Sacro Bosco et compositionem astrolaby et geographiā Pthot, in illo tempore erexi columnam seu cilindrum ante ecclesiam Diui Virginis cum lapicida Wilhemo Aest servo regis. Eo tempore Lutherus fuit ab universitate condemnatus cuius testimonium ego Nicolaus Krasterus in columna manu propria scripta posui."

[*"In the year 1520 I, Nicholas Kratzer, born a Bavarian of Munich, a servant of King Henry VIII., at his command lectured at Oxford on Astronomy and the supplement to Astronomy, the mundane*

sphere of John of Holy wood,¹ the composition of the astrolabe and the geography of Ptolemy. While there I set up a column or cylinder before the Church of the Blessed Virgin with the help of the stone cutter William Aest, the king's servant. At that time Luther was condemned by the University, a testimony of which I Nicholas Kratzer wrote and placed with my own hand upon the column."]

The dial thus speaks :

Annis mille tribus quingentique adde decem bis
 Invenies tempus quo hic situatus eram,
 Oxonie rector Thomas Mosgrave medicinam
 Qui profitebatur quique peritus erat.²
 Me posuit lapicida suis Gulielmus Aestus
 perpulchre manibus, hunc dedit atque locum,
 Nicolaus cunctas Krasterus bavarus horas
 dicere me fecit qui monacensis erat,
 Quique suis illo prelegerat astronomiam
 tempore discipulis multaque tradiderat,
 Et fuit Henrici tum octavi nominis huius
 astronomus regis cui bene carus erat ;
 Anglus erat lapicida, fuit Germanus at alter,
 totius aetatis cum decus ipse fui ;
 Ambo viri semper Germano more bibebant,
 et poterant potus sugere quicquid erat.
 Anno Dⁿⁱ 1520.

[To one thousand five hundred and three years add twice ten, and you will discover the time at which I was placed here. Thomas Mosgrave² (then) professed medicine at Oxford, and was skilled therein. William Aest the stone cutter set me up fairly with his own hands, and placed me in this spot. Nicolas Kratzer, the Bavarian who was of Munich, caused me to tell all the hours. He also at that time lectured to his pupils on astronomy, and much learning he handed down. He was then the astronomer of King Henry, of that name the eighth, who held him very dear. The stone cutter was English, the other German, at the time when I was the admiration of the whole age. Both men drank ever in the German fashion, and could swallow all the liquor that there was.]

This was very likely written on a sheet of paper and stuck up on the dial on the occasion of the visit of some distinguished person. Kratzer does not seem to have taken offence at the last two lines, as he inserts them whole in his book.

Then follow other verses :

¹ John de Sacro Bosco, or Holywood, was born at Halifax and educated at Oxford. He afterwards taught mathematics at Paris, and died in 1256. He wrote a celebrated treatise on the sphere, which is said to be an abridgment of Euclid. It has been often printed, and was commented on by Clavius. (See Hallam, "Lit. of Europe," i. 113.)

² Thomas Mosgrave was "reader in medicine," not professor.

Carmina inscripta in horologo Universitatis Oxoniensium edita per Ludovicum Viuum :

Ad orientem
 Per Virgas Virides notantur horae
 Quas monstrant numeri à die renato
 Ad meridiem
 Solis meatus lucis alternas Vices
 Horas diurnas, signa, quae tempus notant,
 Vmbrae docebunt Gnomonum meatis suis
 Ad occidentem
 Ceruleae signant ex quo se condidit undis
 Temporis interea quot sol confecerit horas.
 Ad septentrionem
 Tempora, et obliqui solis lunaeque meatus
 Ostendi mirum possunt mortalibus umbris.

[Verses inscribed on a dial of Oxford University, produced by Ludovicus Vives :¹

On the east : The hours are marked by green lines, which the numbers point out, beginning with the birth of the day.

On the south : The sun's journeys, the alternations of the light, the hours of the day, and the signs which mark the season, the shadows of the gnomons shall teach thee by their wanderings.

On the west : The dark blue lines show how many hours of time the sun hath fulfilled since he hid himself beneath the waters.

On the north : The times and the oblique movements of the sun and moon, can be shown forth, a miracle to mortal shades.]

It is evident from these inscriptions that the eastern dial showed the hours reckoned from sunrise, *i.e.*, the old German or Babylonian hours ; while that on the west gave those reckoned from sunset, or the Italian hours. The inscription on the column implies that a scale of degrees was marked below the gnomon.

Tanget, quum medij notam diei
 Phebus, lunane, stilus indicabit
 A coeli medio, polis, horizonte
 Ad sidus spacium quod esse dices.

[*When Phæbus or the moon touch the midday mark the style will show you the space which you will say there is between it (Phæbus or the moon) and the zenith, the poles, and the horizon.*]

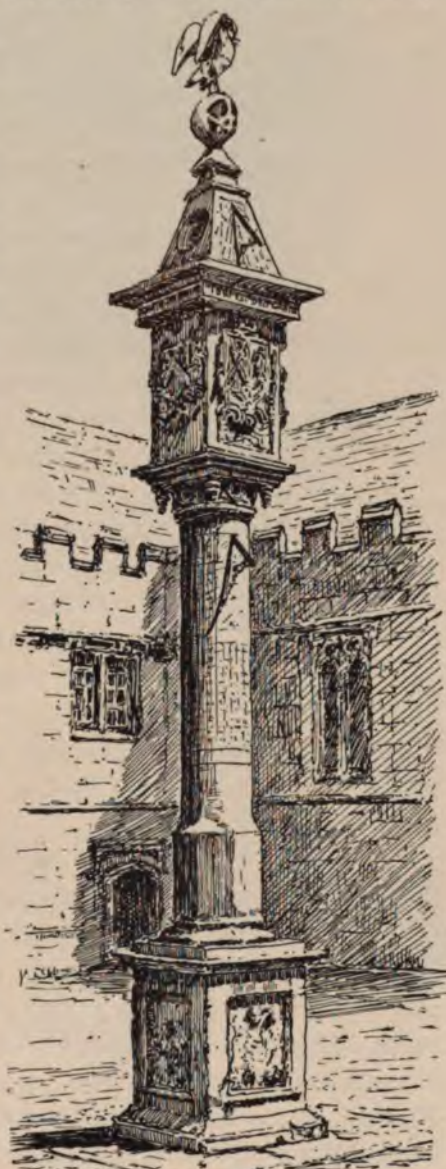
Some resemblance to the form of Kratzer's work on St. Mary's churchyard wall may be traced in the graceful column of dials which still stands in the quadrangle of his old college of Corpus Christi. It is taller and of finer proportions, but there is the same cubical block with dials on its four sides, and dials also on the slopes of the pyramid, besides a perpetual calendar on the column, and mottoes which will be

¹ Ludovicus Vives was one of the lecturers of Corpus.

found later on in this book. The date 1581 is on the south face, and the initials C. T. and date MDCV on the column.

The initials are those of Charles Turnbull, a Lincolnshire man, by whom these dials were constructed. He was admitted to the college in 1573, and was the author of a treatise on the Celestial Globe. The first date probably applies to the setting up of the dials, and the second to the tables which are painted on the cylindrical shaft. Hegge gives a drawing of the dial as it appeared in his time, 1625-30, and this has been reproduced in Mr. Fowler's "History of Corpus Christi College." The shaft then rested on steps, which the present square pedestal afterwards replaced. The vertical dials were partly covered by the coats-of-arms, carved in relief, of (1) Bishop Fox, the founder of the college; (2) Bishop Oldham; (3) the University of Oxford; and (4) also by the Royal arms. In each case the scroll-work round the shield acts as a gnomon to the dial face engraved below it. The column is said to have been regarded as "inconvenient" during the old days when invasion was threatened, and the quadrangle was used as a drill ground, but happily it was not removed from its place, and still stands as a monument of Turnbull's mathematical skill.

Few sun-dials are of greater historical interest than that which bears the name of the celebrated Anne Clifford, Countess of Pembroke, the able and excellent lady who could discourse on every subject, "from predestination to slea' silk," the heiress of the great house of Clifford, who fought in the courts for her vast estates with the tenacity and ruled them with the wisdom of a Maria Theresa; raising also her castles from



CORPUS CHRISTI COLLEGE, OXFORD.

their ruins, repairing the churches, building again, as the inscriptions state, the old waste places. Amongst the monuments reared by her, this pillar by the wayside between Brougham and Appleby still stands to record her name. It is octagonal, and surmounted by a square block bearing dials on two of its sides; on the other two are the arms of the Viponts, from whom the estate of Brougham came to the Cliffords, and those of Clifford impaling Russell, surmounted by an earl's coronet. There is also the following inscription:

THIS PILLAR WAS ERECTED, ANNO 1656,
BY THE RIGHT HON. ANN COUNTESS DOWAGER OF
PEMBROKE, AND SOLE HEIR OF THE RIGHT
HONOURABLE GEORGE, EARL OF CUMBERLAND ETC.,
FOR A MEMORIAL OF HER LAST PARTING IN THIS PLACE
WITH HER GOOD AND PIOUS MOTHER, THE RIGHT HONOURABLE
MARGARET COUNTESS DOWAGER OF CUMBERLAND,
THE SECOND OF APRIL, 1616. IN MEMORY WHEREOF
SHE ALSO LEFT AN ANNUITY OF FOUR POUNDS
TO BE DISTRIBUTED TO THE POOR WITHIN THIS
PARISH OF BROUGHAM, EVERY SECOND DAY OF APRIL
FOR EVER UPON THIS STONE TABLE.
LAUS DEO.

The stone table for the alms stands at the foot of the pillar. Another dial pillar set up by the Countess at Appleby is noticed in the motto collection.

For some part of the eighteenth century the base of the High Cross in Warwickshire bore a conical sun-dial crowned by a vase and cross. It marks the place where the old Roman fosse-way crossed Watling Street, and is locally called the "centre of England." The dial was struck down by lightning in 1791, and only the base of the cross remains. This bears two Latin inscriptions written by George Greenaway, a schoolmaster at Coventry, one to draw attention to the Roman roads and castra, and the other in praise of the Earl of Denbigh, by whose care the column was erected A.D. 1722.

Of another dial-stone only the memory remains. This was a square pillar $12\frac{1}{2}$ feet high, which stood in the hamlet of Three Mile Bridge near Newcastle-on-Tyne. It was erected by John Pigg, town surveyor of Newcastle during the Civil Wars, who walked daily from his house in the town to Three Mile Bridge, and derived so much health and pleasure from the habit that he put up a lasting monument of his

gratitude. There were three dials on the pillar and several texts from Scripture, together with the following lines in praise of wisdom :

“ Who would not love thee while they may
Enjoy thee walking? For thy way
Is pleasure and delight : let such
As see thee, choose thee, prize thee much.”

Pigg seems to have been a Puritan and a very eccentric character. He “ usually wore a high crowned hat, a strait coat, and would never ride, but walk’t the pace of any horse, hundreds of miles on foot with a quarter staff fenced with an iron foot at one end.” He died in January, 1668-9, and left some money for the relief of the poor and the support of a clergyman. The pillar was removed in 1829, when the road at Three Mile Bridge was altered.

Pillars more elegant than the Countess of Pembroke’s, and crowned by a cube of stone bearing dials on some or all of its faces, and sometimes tapering to a point above to be crowned by a ball or some other ornament, are still to be seen in the market-places of country towns. There is a fine specimen at Carlisle. The dial-block is placed on an Ionic column standing on six steps, and is crowned by a lion sejant holding a shield which bears the city arms. Above the capital of the column is the inscription : “ Thomas Reed, Maior, 1682.”

A pillar with a cube of dials surmounted by a ball, and with a drinking-fountain at its base, stands also in the market-place at Mansfield. At Steeple Ashton, Wiltshire, a column about 20 feet high, bearing four vertical dials, stands on the steps of an old cross in the market-place.¹ It is thus inscribed : “ T. S. Repaired in 1785, and in 1826. Founded in 1071. Rebuilt 1679. Repaired in 1714.” The dials probably date from the rebuilding. In the



THE COUNTESS' PILLAR.

¹ Engraved in “The Antiquarian Cabinet,” vol. vii., 1819.

market-place at Guisborough, Yorkshire, a stone pillar crowned by a dial and ball has been set up in recent times. It stands on a block of masonry and has a drinking-fountain at its base.

The cross at Chichester, really a market-house, built in the fifteenth century and repaired in the reign of Charles II., had at one time four sun-dials facing the four principal streets of the city. These have now



MARKET CROSS, CARLISLE

given place to a clock. Taunton Cross, which likewise bore dials, was taken down in 1715. At Woodstock a central pillar, round which the market-house was built, was surmounted by a stone cube with an erect dial on its south face. This is shown in an engraving of 1777 in Grose's "Antiquarian Repertory." The market cross with its dials is still standing at Oakham, and the parish stocks are at its foot.

The Queen Eleanor cross at Northampton, and also the cross at Geddington, were at one time furnished with dials, and the Tottenham High cross, after being rebuilt in 1600 by Dean Wood, had two vertical

dials placed on its south and west sides, one of which remained till 1809.

But how many dial-pillars stand on the bases of ancient crosses in market-places, churchyards, or by the wayside, it were hard to say. The old wayside cross at Culmerden, Gloucestershire, has a dial-block mounted on an Early English shaft. At Ashleworth, in the same county, the shaft of a former churchyard cross, 5 feet high, now supports a block of dials, those on the east and west sides being hollowed. One in Ilam Churchyard, Derbyshire, was sketched for the Anastatic Drawing Society in 1860; another is at Biddulph, in Staffordshire, and is thought to date from the sixteenth century. At Martock, Somerset, a tall fluted column, surmounted by a cube with four dials, a ball, and vane, stands on an ancient base; and at Backwell, Kenn, Queen's Charlton, and Chelvey, in the same county, as well as at Saintsbury, Gloucestershire, these picturesque monuments are still, we trust, to be found. A modern dial-block of this type, mounted on a pillar, was set up some thirty years ago at Henbury, Gloucestershire. It has a drinking fountain at its base, and is a great ornament to the village.

Mr. E. C. Middleton¹ has noticed a fine old cross shaft, with a cube of four dials, crowned by a ball, at Whatcote, Warwickshire, and others at Chaddesley Corbett, Worcestershire, and Congleton in Cheshire. At Packwood House, Warwickshire, there are no less than seven dials (two of which will be found noticed in the collection of mottoes). In front of the house, an old shaft on steps bears a cubical block with four dials, dated 1667; and there is a curious stone seat in the garden made of a square block, which has evidently borne gnomons.

London possessed at least three specimens of this class of dial-pillar. There was a column in New Square, Lincoln's Inn, with four vertical dials, surmounted by a pinnacle, said to have been designed by Inigo Jones. Like Sir John Dethick's dial in Leadenhall Street, it formed the centre of a fountain; the water spouted forth from shells held by four tritons, and fell into a basin at the foot of the column. It is



ASHLEWORTH CHURCHYARD.

¹ "The Sundials of Warwickshire," 1896.

possible that the verse given by Charles Leadbetter in 1737, as on a dial at Lincoln's Inn—"Let your light so shine before men"—may have been on this column. But nineteenth century taste preferred gas lights, and in 1847 Inigo Jones's work was taken away to make room for a lamp. The column is shown in an engraving of the New Square by Nicholls in 1730.

Covent Garden was originally the convent garden belonging to the Abbey of Westminster, and when, in 1631, Francis, Earl of Bedford, to whom the property then belonged, had the present square formed, it was laid out by Inigo Jones, but not completed by him. The piazza ran along the whole of the north and east sides, the church of St. Paul was on the west, on the south was the garden wall of Bedford House, and under its overhanging trees a few temporary stalls were set up at market times. The square was gravelled over, and in the centre was erected, in 1668, a Corinthian column, surmounted by a block of stone, with four dial faces, and the whole crowned by a globe supported on four scrolls.

The accounts of the churchwardens of St. Paul's give some details as to the cost of the column :

	£	s.	d.
" Dec. 7, 1668. Received of the Right Honourable the Earl of Bedford as a gratuity towards the erecting of y ^e column	20	0	0
Received from the Honourable S ^r Charles Cotterill, Master of the Ceremonys, as a gift towards the said column	10	0	0
April 29, 1669. Received from the Right Honourable the Lord Denzil Holles as a present towards the erecting of the aforesaid column	10	0	0
20 Nov. 1668. For drawing a Modell of the Column to be presented to the Vestry	0	10	0
2 Dec. 1668. To M ^r Wainwright for 4 gnomons	0	8	6

The column was raised on six steps of black marble, and there old women sold barley broth and milk porridge. A brochure, "The Humours of Covent Garden," 1738, describes the scene :

" High in the midst of this most happy land,
A well-built marble pyramid doth stand,
By which spectators know the time o' the day,
From beams reflecting of the solar ray ;
The basis with ascending steps is graced,
Around whose area cleanly matrons placed,

Vend their most wholesome food, by nature good,
To cheer the spirits and enrich the blood."

The pillar figures in Hogarth's print of "Rich's glory, or his triumphal entry into Covent Garden," published in 1732, and also in engravings of the "Covent Garden Morning Frolic," by Boitard, 1747, where it is represented as surrounded by the tiled roof of a market



COVENT GARDEN, 1747.



SEVEN DIALS COLUMN,
BEFORE 1773.

shed, and with the market women clustering about the steps. It was probably taken away when the present market was built.

The "Seven Dials" which gave their name to a district in the parish of St. Giles in the Fields, were, curiously enough, only six in number. They formed the six faces of a block of stone which crowned a Doric column, and each dial fronted one of the streets which met in the open space where the pillar stood. Two of these streets opened into one angle, so that the seven formed an irregular star, as described by John Evelyn. "I went," he writes, October 5th, 1694, "to see the building near St. Giles, where seven streets make a star from a Doric pillar placed in the middle of a circular area, said to be built by Mr. Neale, introducer of the late lotteries."

Cunningham, in his "Handbook of London," says "It was re-

moved in July, 1773, on the supposition that a considerable sum of money was lodged at the base. But the search was ineffectual." The old column spent some time in a stone mason's yard, and in 1822 was bought by the inhabitants of Weybridge and set up on the Green as a memorial to the Duchess of York.



It is mounted on a square base and crowned by a very inartistic object, a ducal coronet; while the block of stone which formed the six dials, and in which the holes filled with the lead which had fastened the gnomons can still be seen, lies embedded in the ground near the neighbouring "Ship" Inn, after having been used for many years as a mounting-block.

In Gay's "Trivia" we read :

"Where famed St. Giles' ancient limits spread,
An in-railed column rears its lofty head :
Here to seven streets seven dials count the day,
And from each other catch the circling ray :
How oft the peasant with enquiring face,
Bewilder'd trudges on from place to place :
He dwells on every sign with stupid gaze,
Enters the narrow alley's doubtful maze,
Tries every winding court and street in vain,
And doubles o'er his weary steps again."

There must have been many vertical sun-dials attached to buildings in London, in former days, besides those which have been noticed with mottoes. A print of 1725 shows one on the wall of Coney Court, Gray's Inn, and another engraving of 1715, gives two on the tower of St. Clement Danes, one of which remains to this day. The old church of St. Martin in the Fields, pulled down and rebuilt about 1721, had a dial on the west, and another on the south side of the tower. St. Dunstan's, Stepney, had also a dial. That on St. Sepulchre's, Newgate, still remains, as does the one on the great hall of the Charterhouse. An old print of the Guildhall shows dials on the cupola. It is supposed that they were placed there at the end of the seventeenth or beginning of the eighteenth century. Another dial appears on one of the buttresses in the same engraving.

A very handsome dial stands in the Earl of Derby's park at Knowsley. The cube is mounted on a spiral pedestal with a base of three steps, supported by four eagles. The dials face the four points of

the compass, and are crowned by a globe. The eagles doubtless refer to the crest of the eagle and child which belongs to the Stanley family. Another fine dial of this kind is in the park at Blenheim, the successor, perhaps, to that "dial aged and green" which stood near Woodstock Lodge in the days of Mistress Alice Lee.

An old stone shaft which may once have formed part of a cross, stands in the deer park at Stoneleigh, Warwickshire, and is now surmounted by a quaintly pierced stone cap bearing a cubical block with a dial on each face and a cup-shaped hollow at the top, in the centre of which is a small upright gnomon. At the four corners of the palings which surround the dial are wooden posts, cut in the same shape as the cap.

The Dublin Museum contains a stone block with a vertical dial to the south, and circular, elliptical, heart-shaped, and triangular hollows on the other three sides. There are proclining dials on the under slopes where the block was narrowed to the pedestal. The sun's face surrounded by projecting rays is carved in relief on two sides, and at the corner of the south face is a Tudor rose. The north side has a coat of arms, and a monogram of the letters M. T. I. S. S. B., with possibly another I on the slope below. Two of the numerals which give the date are defaced, but they probably gave the year 1688. A horizontal dial is on the top, and remains of metal gnomons are in the hollows. The history of this dial as of the one at Stoneleigh has not been ascertained.

A cubical stone with vertical dials is sometimes placed as a finial on the point of a gable, as on a church porch, or lych gate, or occasionally on a house. There are examples of this treatment in Scotland, and we have them also in England; as at Felton, Northumberland; Gilcrux, in Cumberland; Ashover, Derbyshire; Wolfhamcote, Warwickshire, and other places. Ecton Church, Northamptonshire, has a much worn block with four faces, at the corner of the south porch. At Lydney, in Gloucestershire, there is a cube with four dials on the lych gate; and at Wimborne Minster a block of solid masonry 6 feet high, now stands in the churchyard, bearing dials on three of its faces, the south face being 4 feet, and the east and west 3 feet wide. This was formerly on the gable of the north transept, but was taken down when the church was restored, and placed temporarily under a yew tree, in hopes that funds might in course of time be provided to set it up again on a suitable pedestal. It



LYDNEY.

is dated 1732.¹ A cubical sun-dial, dated 1636, stands on a wall at Guiting Grange, in Gloucestershire; and several others, including one on a tombstone at Greystoke, will be noticed in the collection of mottoes. One at Monkton Combe, Somerset, formerly on the church, and dated 1786, is now in the Vicarage Garden; the east and west gnomons are of slate.

In Loggan's "Views of Cambridge," 1675, a cube of dials is represented on the Gate Tower of Caius College.

It is impossible to mention even a tenth part of the ordinary dials without mottoes scattered up and down the country, nor, indeed, is it desirable. Many districts where they abound have either never been visited, or have been very slightly explored. Even in respect of English churches the record is very partial, and of churchyards still more so. Thanks to the late Mr. Ladbroke, who published sketches of all, or nearly all, the churches of Norfolk, the dials of that county have been more completely noted than that of any other. But many of the dials which appear in his drawings have since disappeared. They became decayed and were not replaced. The late Mr. George Roberts, who contributed a valuable series of notes on church sun-dials, chiefly in Yorkshire, to "The Yorkshire Post," and afterwards reprinted them in his "History of Lofthouse," went very thoroughly through certain districts of the West Riding, but he, also, in his last contribution, in 1890, observes with regret the decay which had overtaken many of the dials which he had noted in 1860. Dials are wont to cling to certain neighbourhoods. They are plentiful in some districts in Yorkshire, while other parts of the county are entirely without them. Amongst those counties which have contributed most largely to this work, Cornwall and Devon take a high place. Somerset and Dorset have dials, but not many mottoes on them. A village in the County of Durham, Hurworth, was noticed by William Howitt, in his "Visits to Remarkable Places," as distinguished by the greatest number of sun-dials on the points of its houses of perhaps any village in the kingdom. "These are due to William Emerson, a rough fellow, but one of the first mathematicians of his age," who was born at Hurworth and died there in 1782. His works include a book on "Geography, Navigation, and Dialling," published in 1750.

A type of dial frequently to be seen in Scotland, viz., two vertical dials placed at an angle with each other, and facing south-east and south-west, is very rare in England. There is, however, or was a few years ago,

¹ Figured in "Strand Mag.," 1892.

such a one placed on the top of a buttress at Thornhill Church, in Yorkshire; the numerals were much defaced and the gnomons bent.

Occasionally a dial may be seen mounted on the chimney of a house; there is one such at Seend, Wiltshire, the chimney being part of a seventeenth-century addition to an old Tudor House. Mr. E. C. Middleton¹ found two in Warwickshire, one on an old stone cottage at Halford Bridge, and another at the Moat House, Sutton Coldfield, built by William Wilson, the assistant of Sir Christopher Wren. He heard of a third at the Glass House, between Packwood and Lapworth. Another will be found noticed in the collection of mottoes.

Amongst the curious fancies of builders, one has been recorded of a "house so contrived that the shadows from the different angles give the hours of the day." This was at Hesket Hall, Cumberland, built by the first Sir Wilfrid Lawson, Bart. The roof is circular, the chimneys running up in the centre. It is now a farm house.²

Mr. William Osmond, sculptor, has described a very simple form of dial, or rather meridian, which is on the north boundary wall of the Close at Salisbury. It consists of a perpendicular line, over which the shadow of the Cathedral spire, thus acting as a gnomon, passes at mid-day, and shows the hour of noon. The word *Meridies* is engraved beside the line. This dial has been in existence for several generations. Mr. Osmond's father, who died at the age of eighty-six, was once employed in his youth to recut and repaint the letters. It might, indeed, be the very dial mentioned by Evelyn in his "Diary," when, in 1653, he visited Salisbury, and "saw the Cathedral . . . the cloysters of the palace and gardens and the great mural dial."

In a paper on Manx sun-dials, by Miss A. M. Crellin, which was read before the Isle of Man Natural History and Antiquarian Society, in January, 1889, it was stated that one of the oldest and rudest dials in the island is at Peel Castle, "by the side of a flight of steps leading to the entrance." This is what is generally known as "the white line," a perpendicular stroke of white paint, some $3\frac{1}{2}$ feet long, and 4 inches wide, quite roughly done; at noon the shadow from the corner of the wall on the south side falls on this line, and it can be seen across the harbour, far away up the quay; this being the ordinary dinner hour, the importance of such a time teller is apparent, especially as until lately there was no public clock in the town. Alongside this white line, a little distance away, is another stroke, painted black; this denotes English time, which is eighteen minutes earlier than Manx.

¹ "The Sun-dials of Warwickshire."

² Whelan's "Hist. of Cumberland and Westmoreland," p. 225.

Another interesting dial stands in the marketplace at Castletown. It consists of a "massive column of masonry some 16 feet high, and 18 feet in circumference, and is generally known by the name of 'the Babby House.' It has twelve faces, but three of them, on which the sun never shines, are dummies, and have no numerals; the date 1720 is cut on the principal face. On the castle just above the dial is a one-fingered clock, which was given by Queen Elizabeth in 1597."

At Lewaigue House in the parish of Maughold, Isle of Man, there is a dial with a fine brass face about 8 inches square on which is engraved, "Ed^m Culpeper fecit, 1666."

Window dials, in coloured glass, are very pretty ornaments to an old-fashioned house. Occasionally they have been seen in churches. One in the church of All Hallows, Staining Lane, put up by Isaac Oliver in 1664, is mentioned in "The Universal Museum," 1762, when there was scarcely any part of the painted glass remaining. In a window on the south side of Ledbury Church in Herefordshire such a dial still remains. There is also one at Lambeth Palace, with the fly painted on it. It is thought to have been removed from the Presence Chamber to its present place in a window of the Lollard's Tower. A portion of a glass dial in the possession of Charles T. Gatty, F.S.A., has only the numerals IX, X, IV, V, and VI remaining and the date 1741, and differs from other specimens of the kind in having the butterfly, as well as the fly, painted on it. The fly is supposed to be a punning suggestion that the hours "fly"; probably the butterfly is introduced to represent the opposite thought of immortality. It is used in ancient missal borders in this emblematical sense.

In a window of the private chapel at Berkeley Castle there is a small dial in stained glass, showing the morning hours from 4 to 10 a.m. It appears to be of the seventeenth or eighteenth century. The fly is painted and apparently raised on the outside of the central glass, which is thick, part of it being ground glass. The west window of the Convocation House at Oxford has a dial showing the afternoon hours.

A curiously designed gnomon belonging to a vertical dial on Lelant Church, Cornwall, was noticed by Mr. Arthur Langford in "The Reliquary," January, 1898. The dial is of copper, probably belonging to the eighteenth century, and the gnomon bracket is pierced to represent "a figure standing on a horizontal bar. The figure, which is symbolical of Time and Death, consists of a crowned skeleton, holding in his right hand a dart, and in the left an hour-glass. His vertebræ, features, parts of the crown, and sides of the hour-glass are pierced." A sketch of this quaint figure is given by Mr. Langford.

The gnomons of horizontal dials are often finely designed, but to meet with such work in a vertical gnomon is rare. The emblematic figures of Time and Death, which adorn alike dials and gravestones, probably came down to us from those mediæval representations of the Dance of Death with which Holbein and others have made the world familiar. At once grotesque and gruesome, the skeleton seems to have rooted itself in the stern imagination of the northern races as the only fit picture of the last enemy. And Time and Death are rightly portrayed alike, seeing that they go hand in hand through what we call Life, and that the end of Time will also be the end of Death. But the representation of Death as the skeleton is not true art nor Christian art, and we may be glad that the great painter of our own time, G. F. Watts, has restored to both figures that dignity and nobleness of aspect which is their due, and thus formed a truer conception of their meaning than either Holbein, or the dials, or the tombstones can give.

CHAPTER IX

VERTICAL DIALS, ATTACHED

“ Make the passing shadow serve thy will.”—TENNYSON, *The Ancient Sage*.

WE traced the succession of vertical dials on churches from the days of the Saxons to those of the Tudors in a former chapter. From the frequent entries of payments “ for a Diall ” in churchwardens’ accounts we may judge that there was hardly a church without one, and also that they did not last very long. Stone, wood, and paint are alike perishable, and metal might be stolen ; but still the timekeeper was replaced up to the present century. In the sixteenth century they began to appear on houses also. The oldest dated vertical attached dial which we have on a house is in Lord Street, Rochdale. The building is said to have been the old manor house of the Byron family. The dial has two dates, 1521 and 1630, the latter probably refers to a time when it was repaired. It seems to have undergone several restorations. These dates are apt to be uncertain ; sometimes they refer to the building of the house, as at Warwick Priory, where the dial, though dated 1556, is quite a recent addition. Our English mural dials are not, as a rule, much ornamented. A figure of Time with his scythe, as over a shop at Rye, or some floriated border, or a pediment with pilasters, is pretty nearly all that they aspire to. Sometimes they have a variety of lines, and show the time at different places all over the world, and this is more for ornament than use ; but even the gilded rays around the sun’s face are not always present.

On one of the tower buttresses of Bolton Abbey, facing south, there is a stone figure of a pilgrim with a staff in one hand and a broad flat hat in the other, and beneath it a sun-dial, dated 1646. The figure is no doubt of much earlier date, but it is possible that there might have been an earlier dial in the place of the present slab.

Four dials on English cathedrals have been noticed in the collection of mottoes. There is one without a motto on Ripon Minster, and in former days there was one on Bristol Cathedral. The collegiate church

(now cathedral) of Manchester bore one in 1794, and there is at the present day a horizontal dial standing erect amongst the flat gravestones of the cathedral churchyard. It is, however, so closely imprisoned by



BOLTON ABBEY.

heavy iron railings as to be practically useless. And yet the authorities might remember that

"A prison is a house of care,
A place where none can thrive,"

not even a sun-dial!

The finest specimen of an erect engraved metal dial which we have seen is a plate which came into Messrs. Barker's hands to be restored, some few years ago, and which we have been allowed to reproduce. It represents the figure of our Lord seated amidst the clouds and surrounded with cherubs. There is no date.

When the Cathedral of St. Paul's was rebuilt it would seem that clocks had begun to supplant sun-dials. The tower of old St. Paul's had borne, as we learn from Mr. Charles Knight's "London," "a goodly dial made with all the splendour that might be, with its angel pointing

to the hour both of the day and night," but in the new building the "clock chamber" held an important place. Sir Christopher Wren had, nevertheless, in early days interested himself in the subject; in 1647, while only fifteen and a scholar at Wadham, he translated Oughtred's "Geometrical Dialling" into Latin, and afterwards drew a reflecting dial on the ceiling of a room embellished with various devices, including emblematical figures of Astronomy and Geometry and their attributes, and with the following inscription :¹

CHR. WREN.

ANGUSTIS SATAGENS HIS LAQUEARIBUS
AD CÆLI METHODUM TEMPORA PINGERE,
A PHÆBO OBTINUIT LUMINIS UT SUI
IDÆAM SPECULO LINQUERET ÆMULAM
QUÆ CÆLUM HOC PERAGRET LUCE VICARIA
CURSUSQUE EFFIGIEM FINGERET ANNUI;
POST ANNOS EPOCHÆ
VIRGINEO QVIBVS
VERE FACTVS HOMO EST EX VTERO DEVS
ETAT ISQVE SVÆ NVPERÆ.

[One who was content upon this narrow ceiling to depict the times to the pattern of the sky, gained from Phæbus the boon that he would leave an image, rival of his rays, upon the mirror, to wander over this heaven with borrowed light and shape a likeness of his yearly course; 1648 years after the time at which in very truth man was made God from a Virgin's womb and in the sixteenth year of his own (the maker's) youthful age.]

These dates are given by the Chronograms in the three last lines.

In 1653 Wren was elected a fellow of All Souls, where he designed, it is said, the dial which was formerly on the wall of the chapel, and is now on that of the library. Evelyn, who visited Oxford in that same year, met Wren at the house of the distinguished mathematician who was then Warden of Wadham and afterwards Bishop of Chester. "I dined," he writes, "with the universally curious Dr. Wilkins, at Wadham College. He was the first who showed me the transparent apiaries which he had built like castles or palaces, and so ordered them one upon another as to take the honey without destroying the bees. These were adorned with a variety of dials, little statues, vanes, etc., and he was so abundantly civil, finding me pleased with them, to present me with one of y^e hives which he had empty, and which I afterwards had in my garden at

¹ Elmer's "Life and Works of Wren."



ENGRAVED DIAL PLATE IN THE POSSESSION OF
MESSRS. BARKER, CLERKENWELL.

Sayes Court, where it continued many years, and which his Majestie came on purpose to see and contemplate with much satisfaction. He had above in his lodgings and gallery, a variety of shadows, dyals, perspectives, and many other artificial, mathematical, and magical curiosities, a way-wiser, a thermometer, a monstrous magnet, conic and other sections, a ballance on a demi-arch, most of them of his own and that prodigious young scholar M^r Ch^r Wren."

When Loggan took his views of Oxford, published 1688, there were several dials on the colleges, but most of these are gone. He shows them at Exeter, St. John's, Trinity, Wadham, Brasenose, Christchurch, All Souls, Magdalen, and St. Mary Hall, besides pedestal dials at Queen's, Balliol, and Pembroke, and a tall pillar in New College gardens. Of these there remains the great dial at All Souls, and one in Brasenose quadrangle; a gnomon on the south-east buttress of Wadham Chapel, possibly placed there by Dr. Wilkins, and a gnomon on the south-east buttress of Christ Church Cathedral overlooking Dean Liddell's grave in the quiet little churchyard. There is also a more modern dial near the Peckwater quadrangle, almost hidden by an acacia, and one on Holywell Church. In Pugin's time there was one on Merton Chapel, with the date 1622.

Cambridge still boasts the fine dial at Queen's College, which tradition ascribes to Sir Isaac Newton, but erroneously, as the college books show that it was not put up till 1733, five years after the great astronomer's death, and then replaced one made in 1642. The dial at Christ's College was put up in 1670, on the parapet at the junction of the hall with the master's lodge, and was repainted in 1673. This is gone, as are those at Trinity, St. John's, Jesus, Peterhouse, Sidney Sussex, and Pembroke. At the last named college the dial had been put up in 1553.

In the cloister of the college at Winchester, there are still the remains of a vertical dial to be seen on one of the buttresses, dated 1712. The church of St. Maurice, at Winchester, has a dial on its south wall. There is also one on St. George's Chapel, Windsor. On the Leicester Hospital, Warwick, a vertical dial bears the initials E. R., and is probably a reproduction of an older one. In the views taken by Buck, Kip, and others in the eighteenth century, we constantly see sun-dials figured on the walls of the great houses, but most of them have now disappeared. There were some on the towers of Hatfield House, and on those of Houghton, before the fire. At Sudeley Castle there are still two stone dials, one inside the court nearly over the entrance archway; the other, much worn, on the battlement over the principal entrance.

Charlecote also has its dial on the south wing, and there is one on the Old Bar at Southampton. On the beautiful ruins of Wingfield Manor House, in Derbyshire, the gnomons of two vertical dials can still be seen. The dials were made about 1678 by Immanuel Halton, astronomer and mathematician, who then lived in the Manor House, which his family had bought after the Civil Wars, and which he partly repaired. It had stood two sieges and was left in a ruinous condition. One of the dials is over the bay window of the banquetting hall, the other over a window near the state rooms, once occupied by Mary, Queen of Scots.

Though the dial at Queen's College was not designed by Sir Isaac Newton, he left tokens of his boyish handiwork as a dialler. One he painted on a ceiling in his grandmother's house at Market Overton. It was no doubt like Wren's, a reflective, or as it was then called, a "spot dial," where a speck of light was cast upon the hour lines on the ceiling from a piece of looking-glass which was fixed horizontally in a south window, and reflected the rays of the sun. The house in which Mrs. Ayscough lived was pulled down some years ago, but the piece of plaster with the dial face upon it has been preserved, and is kept in the house built upon the old site.

Sir Isaac Newton also carved both the dials on the south end of the Manor House at Woolsthorpe, in the parish of Colsterworth, Lincolnshire, where he was born. They are figured in a view of the house given in Sir David Brewster's "Life of Newton," and are semicircular, and divided into twelve hour spaces. Under one of the dials Newton carved his name, and this dial stone was taken out of the wall in 1844, and presented to the Museum of the Royal Society, where it is carefully preserved. In 1876-77 the manorial aisle to the chancel of Colsterworth Church was rebuilt; it is called the Newton Chapel, because Sir Isaac's ancestors were buried in it, and Sir William Erle offered to present a copy of the dial in the Royal Society's Museum to Colsterworth Church. The Rev. John Mirehouse, vicar of the parish, at first accepted this offer, but afterwards thought he would make a search at Woolsthorpe Manor and see if the second dial which Newton was known to have carved could be found. His effort was rewarded with success. The old stone was found in its original position on the south wall, covered up by a small coal house, and the relic was given by the owner of Woolsthorpe to the church. The disc is 11 inches wide at the top, and nearly 6 inches deep; it has been enclosed in a frame of alabaster and placed on the north wall of the Newton Chapel, with the following inscription:

"Newton: aged 9 years, cut with his penknife this dial: The stone

was given by C. Turner, Esq., and placed here at the cost of the Rt. Hon: Sir William Erle, a collateral descendant of Newton, 1877."

On the church of Seaton Ross, a little village in the East Riding of Yorkshire, there is a plain south dial, made by William Watson, a farmer, who died in 1857 and lies buried in the churchyard. On his gravestone are the lines :

"At this church I so often with pleasure did call,
That I made a sun-dial upon the church wall."

Mr. Watson made several other dials in the neighbourhood, and printed a little book of directions for their construction. The house where he lived is still called Dial House, and had four dials on the walls, now quite gone to decay. His successors did not value them. "Them fond things," as they were disrespectfully called by one of the younger generation; "If I were thou, Father, I'd have them figures away if I scratted them off wi' my nails." The father only laughed, and observed that "the lad mun' ha' a deal o' time to waaste;" and the dials were left to perish in their own way.

A younger neighbour of William Watson's, John Smith of Beilby, who also distinguished himself as a dialler, is mentioned in the collection of mottoes. He was a remarkable man in his way. From his boyhood he took great interest in astronomy, meteorology, dialling, and mechanics, and spent much of his spare time in a carpenter's shop, where he made a pedometer for his father's waggon. The ability came from his mother's side of the house, and she encouraged these pursuits, but John had to encounter a good deal of opposition from his father, who complained that the lad was always "agate o' them gimcracks." He left signs of his handiwork behind him at Beilby, and after living for several years as a farmer in the East and North Ridings, removed to South Stockton, where he devoted himself to astronomical pursuits, including the construction of sun-dials, and the publication of a meteorological almanack. Smith was a Wesleyan local preacher, and his active life was once graphically described by one of his neighbours at Spaldington, when asked to subscribe towards a testimonial which was to take the form of an easy chair, "Pooh pooh! Smith is a man that nivver sits. Pray what use will an easy hame chair be tiv him? He's working hard all t' day lang i' t' farm, and up star-gazing at neets, and out preaching o' Sundays. Ah weant be a farthing towards nae sic thing as that, that ah wean't, sea ah'l say it at yance."

John Smith lived to the age of eighty-eight, and died at South Stockton in 1895.

The race of country diallers is happily not yet extinct. Mr. Joseph Angus, a foreman quarryman, has made several dials, horizontal and vertical, for his cottage and garden at Crawleyside, co. Durham. The late Mr. Serjeantson, of Camphill, Yorkshire, who put up two or three dials on his farms, had them made by two intelligent village masons, according to the directions given in the "Encyclopædia Britannica," and they were set up with the help of a candle, a piece of string, and the north star. Mr. Serjeantson, who died a few years ago at the age of eighty-nine, used to relate how, in his earlier days, he had painted a signboard representing the Queen and Prince Albert on horseback, for the village inn at Kirkby Malham, near his own property. He wished to put a sun-dial above it, and accordingly wrote to a well-known dialler in the neighbourhood. Time went on, a general election was pending, and late one evening the dialler was driven up to Mr. Serjeantson's door by a neighbour, who had fetched him out of a public-house, and urged the squire to keep him, or he would vote wrong. When politics had been discussed the squire began to speak about the dial, and supposed nothing could be done about it that night as it was so late. "Naw," said the old man looking up at the stars, "it'll do varra weel, its a gran' neet." "But you want the sun, don't you?" "Nay, nay, t' sun's nought to do wi't. I wants nought but a tall cannel and a bit o' band." With these materials the party proceeded to the village and the position of the dial was fixed. But the order was so long in being executed, that after waiting some months the squire wrote to remonstrate, and received in return the following curious letter :

"Carlton, July, 1843.

"DEAR SIR,

"Ever since I have imbrased every applicable opportunity possible for a completion, and yet after all defeated ! if I could possess you (but I have treated you so) we will let alone fixing a time, the model will take two or three days yet to finish it, you need not be afraid of any preposterous executions (because it might fright Her Majesties Horses as her Royal Highness and her consort Prince will ride over every day)¹ though I could like somewhat handsome with regard to its perspicuous situation, and a little towards a melioration of my conduct towards you.

"I have for the present resolved it the most extant job I have on hand, if I am well shall not delay another hour till it is finished, but every process requires its own time, say two days to finish the Model, one day in casting, when I take it to Keighley (on my way to Wilsden to see my sister whom I've anxiously expected), then its to paint and Gild, but I must be over at Kirby in the meantime but cannot with any propriety fix a day yet.

"Dear Sir,

"Your humble Servant,

"WM. CRYER."

¹ Alluding to the signboard.

The dial was brought at last and fixed up on the village inn, where it is still. "But no one wants a sun-dial, or anything of the sort hereabouts, now," remarked the squire, when he had finished telling the story, "for they all take their time from the buzzer."¹

A dialler of former days, as a man of learning, combined no doubt other employments with that of making time tellers :

"Lands he could measure, terms and tides presage,
And e'en the story ran that he could gauge."

But perhaps it was only in Cornwall that he became an exorcist. Mr. Matthews² tells us that Mr. James Wallis, of St. Ives, one of whose dials, with his name and date, 1790, is still on the wall of a house in the little fishing town, was a noted ghost-layer, and on one occasion exorcised the spirits publicly in the market-place with candle, book, and bell, the bell being rung by a boy in attendance. The ghosts who so greatly troubled St. Ives were forced by this ceremony to remain shut up in a tower, where they avenged themselves by making terrific noises, and greatly alarming the inhabitants.

Amongst the eminent men who have paid respect to the sun-dial may be reckoned George Stephenson, the great railway engineer, who set his son Robert (still a boy at school), the task of making a dial to be placed over their cottage door at West Moor, near Newcastle. Father and son together got a stone which they hewed, carved, and polished; and, with the aid of Ferguson's "Astronomy," they found out the method of making the necessary calculations to adapt the dial to the latitude of Killingworth. The dial, with the gnomon coming from the sun's face, may still be seen over the entrance to the humble early home of these distinguished men. Let us hope that the healthy taste of the Stephensons, who by their inventive genius have contributed more than any other men to disturb society in its stationary customs, may plead in favour of the sun-dial—its preservation and its continued use :

"Tis an old dial, dark with many a stain ;
In summer crowned with drifting orchard bloom,
Trick'd in the autumn with the yellow rain,
And white in winter like a marble tomb ;

And round about its grey, time-eaten brow
Lean letters speak, a worn and shatter'd row—

'I am a shade; a shadowe too art thou :

I mark the Time : saye Gossip, dost thou see ?'"

¹ Belonging to some machine works in the neighbourhood.

² "Hist. of St. Ives,"

CHAPTER X

SCOTTISH DIALS

“ Evermore
The simpler essence lower lies,
More complex is more perfect.”

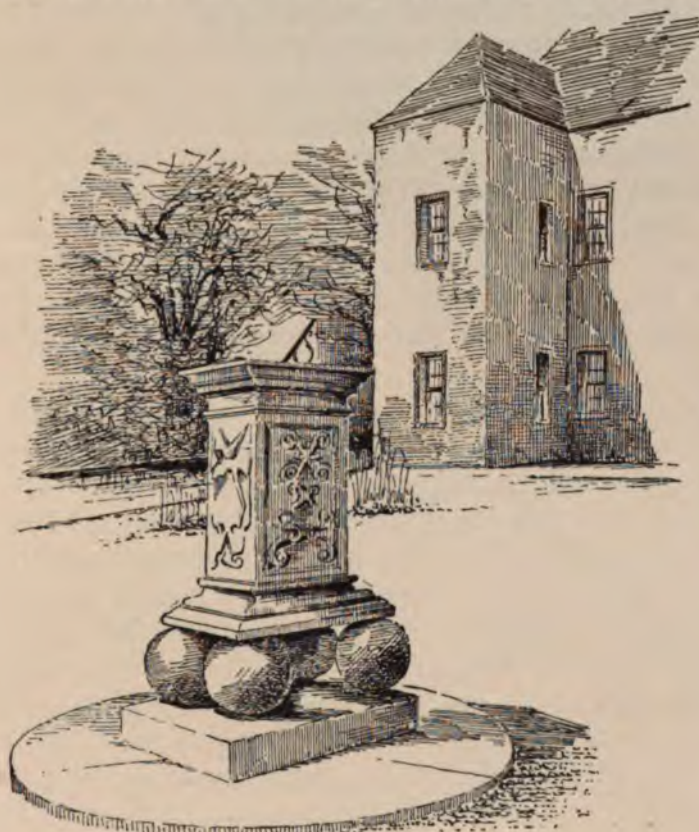
TENNYSON, *Memoir*, vol. i.

THE Scottish dials are so remarkable that they require a chapter to themselves, but here a difficulty awaits us. The work has already been done, and far better than we could do it, by Messrs. McGibbon and Ross in their “Castellated Architecture of Scotland.” Mr. Ross contributed a valuable paper on Scottish sun-dials to the “Proceedings of the Society of Antiquaries of Scotland, Session 1891,” and this paper has been enlarged, and incorporated in the book which he and Mr. McGibbon have issued together. The chapter describes two hundred and thirty dials, and is fully illustrated. For several of the specimens noticed in the last edition of the “Book of Sun-dials” we were indebted to Mr. Ross. All we can do now is to select in addition a few of the most remarkable examples from his work, and arrange them according to the lines which he has marked out. We are indebted to his kindness and that of the Society of Scottish Antiquaries for the illustrations.

“Sun-dials,” Mr. Ross tells us, “may be divided into two great classes, the attached, and the detached. The attached dials are those displayed on the walls of a building, the detached those standing alone. The former are subsidiary works, the latter are often of a very monumental character. Of the attached dials almost every town and village contains examples, and they occur in all imaginable positions—in wall panels, on the apex and eaves of gables, on the corners of houses, over archways and doorways, and every other ‘coign of vantage.’ Although detached dials exist in hundreds, there are only four independent types of them in this country. And as it is convenient and necessary to have some descriptive name by which the dial of each type may be known, they will be referred to as: (1) the obelisk dials; (2) the lectern dials; (3) the facet-headed dials; and (4) the horizontal

dials. These names are suggested by the appearance of the dials themselves."

With regard to the attached erect or vertical dials with a single face, several of which will be found noticed in the collection of mottoes, the Scottish ones differ but little from the English. Perhaps a greater proportion of them are made of stone, and the addition of an ornamental



ABERDOUR.

border is more frequent. The most ancient specimen is, however, of metal, and is set on one of the buttresses of the chapel at King's College, Aberdeen. It is 3 feet square, and placed at a height of about 25 feet from the ground. It appears to be an original part of the college, which was founded in 1494, though the building does not seem to have been begun till 1506. The dial may therefore belong to an early part of the sixteenth century.

The tower of the Canongate Tolbooth in Edinburgh has a much worn dial on its south front. It is probably later than the building, which is dated 1591. A few years ago a dial stone about 5 inches

square was found on the site of the Greyfriars convent. It is dated 1548.

At Aberdour Castle, Fifeshire, a vertical dial in a circle engraved on a square slab is set in a kind of niche cutting across the corner of the building and facing south-west. The date 1635 and the initials of William, Earl of Morton, and Anne, his wife, are faintly discernible on the stone. This Earl of Morton was Lord High Treasurer of Scotland and one of the most powerful noblemen of his time; a Knight of the Garter and a strong supporter of Charles I. He married Lady Anne Keith, daughter of the Earl Marischal. In the gardens of "The Place" there is a horizontal dial on a square pedestal which stands on four stone balls and strongly resembles one in the same neighbourhood, at Pitreavie, dated 1644. The north face of the pedestal at Aberdour bears a coronet with the insignia and motto of the Garter and on the south-west face is the Douglas heart. This would indicate that the dial was made for the same Earl of Morton whose initials are on the Castle dial.

At Balcomie Castle, Fifeshire, a small dial is singularly placed in the arch spandrel of a fine gateway leading into the courtyard. Over the arch there are three large panels containing escutcheons, in the centre are the arms and supporters of the Learmonths of Balcomie with the date 1660, on the left are the same arms with the initials of John Learmonth and the motto "Sans Feintise," while the remaining panel has the arms and initials of his wife Elizabeth Myreton, heiress of Randerston, with the motto, "Advysedlie." On a frieze running along the top of the gateway is the inscription: (EXCEPT) THE . LORD . BVLD . THE . HOUSE . THEY . LABOVR . IN . VAIN . THAT . BVILD . IT.

On Hatton House, Midlothian, there are three dials, besides one over the gateway and another in the garden. Of those on the building two are on the south-east tower and the upper one has the monogram E. C. M., the initials of Elizabeth Lauder, heiress of Hatton, wife of Charles Maitland, Earl of Lauderdale, by whom a great part of the house was built. It is dated 1664. A west dial on another part of the house has the same initials, and date 1675.

In the "Scottish Notes and Queries" for May, 1889, a curious dial relic was figured and described, and through the kindness of the editor a reproduction is given here. It is a stone which was found when a drain was opened in Taymouth Castle gardens. The face is dressed, and bears traces of an inscription



and numerals. The stone is a native one and is thought to have been taken from the island castle on Loch Tay when its occupants departed.

In what is called the Earl Marischal's bedroom, in the ruins of Dunnottar Castle, there is a stone with a clock face carved in relief and fitted with a gnomon. It is placed close under a west wall, so that for nearly half the day it must be useless, and at all times some imagination would be required to read it aright on account of the arrangement of the numerals. The stone has probably been shifted from its original place, and the addition of the gnomon was no doubt the fancy of some custodian of fifty or a hundred years ago.

The village of Prestonpans contains probably more dials than any other place in Scotland, unless it be Newstead, near Melrose. They are chiefly found on houses which once belonged to stonemasons. "In the upper corner of one of these there is a representation of the sun and moon, with the initials of John Howison and his wife Agnes Wood, and date 1729. Round the top there is an ornamental scroll containing the mason's arms, a chevron between three castles. Immediately over the dial, on the skew stone of the gable, there is sculptured a right hand holding a mallet and striking a chisel held in the left hand."

On the corner of the church at Prestonpans there is a three-faced dial set into and projecting from a niche in the wall.

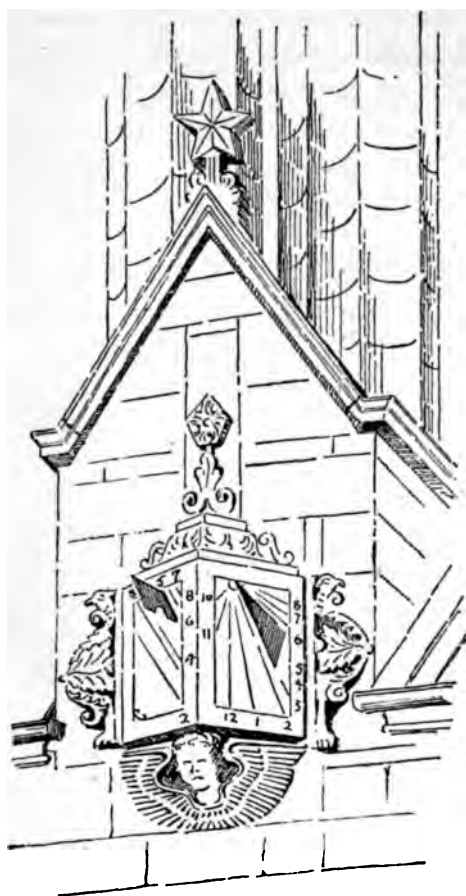
The dial lines cut on a buttress near the south aisle of Melrose Abbey have above them the date 1661. On the south face of the porch of St. Michael's Church, Linlithgow, "Linlithgow's holy dome"—where King James IV. received the warning which might have saved Scotland the disaster of Flodden—there is a seventeenth century dial carved on a stone of the building, but it is very small and insignificant. The church dates from the middle of the fifteenth century.

A very gruesome dial appears over the door of the Greyfriars Church in Perth. The dial projects slightly from the wall, and has carved over it a grinning death's head flanked by two hour glasses.

Two-faced dials projected on corbels are a marked feature of the Scottish series. These are seen in their greatest perfection on Heriot's Hospital, where "there are eleven of them, eight being on the outside walls, and three facing in the courtyard. Some are supported by a cherub's head with wings, others have demons' heads with wings, and one a curious grotesque head somewhat resembling an elephant's. The dials seem to have been made by William Aytoun, who succeeded William Wallace as architect and superintendent of the hospital buildings in 1631-2. In the contract between Heriot's Trustees and Aytoun, the latter was bound 'to mak and carve his Majestie's portratt or any other portratt

he beis requyrit to mak in that wark; and to mak all sort of dyallis as sal be fund fitting for samyn.'"

Similar dials are on Innes House, Morayshire, built between 1640



HERIOT'S HOSPITAL.

and 1653, from the plans given by the same William Aytoun, "maister maissoun at Heriot," to his work, and also at Fisherow and other places. One is on a chimney stack at South Queensferry. A very fine specimen made for his own house by Tobias Baak or Bachup, master mason, is on the front wall of a house in Kirkgate, Alloa. Baak's initials, with those of his wife, Margaret Lindsay, and the date 1695, are carved on the stone below. He was at one time architect and contractor for the town hall at Dumfries, besides doing some of the work about Kinross House, and in 1680 was employed in repairing, and almost rebuilding, the old kirk and steeple at Alloa.

A double dial at Jedburgh projects from a panel with an ornamented border, and above, in the same panel, are two cup-shaped dials, and the remains of an imperfect inscription.

Skilled masons of the seventeenth and eighteenth centuries have left their mark upon the walls of their houses at Newstead, near Melrose, in many curious little dials, two-faced, three-faced, and in one case semi-cylindrical. Some of them are dated. One on a carved bracket has the initials W. M. : L. M. : 1683; another J. B., 1754. The names of Mein and Bunyan both belong to mason families in Newstead.

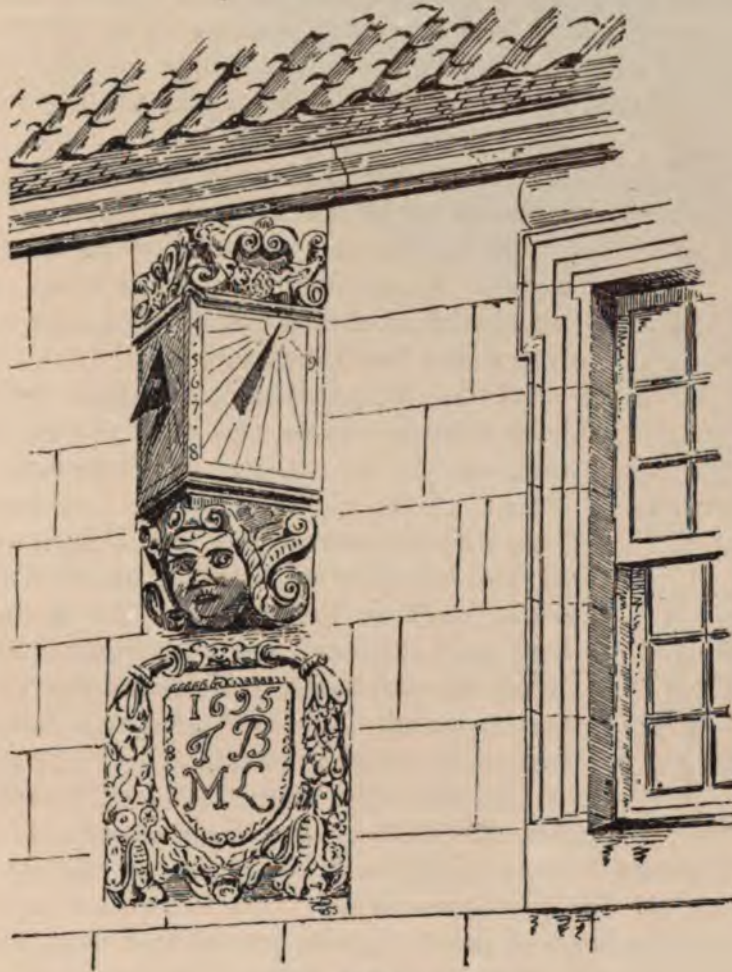


OLDHAMSTOCKS.

At Cockburnspath and Oldhamstocks, Berwickshire, semi-cylindrical dials appear on the church buttresses. At Oldhamstocks there is also a dial on the sloping under-surface of the cylinder,

with a stone gnomon, left when the face of the stone was otherwise cut away. There is a date 1581 on another part of the church, but it is thought that the dial may belong to an even earlier period.

A curious dial of the same type is affixed to the wall of a bastion tower about 10 feet high, which forms part of the boundary of the



ALLOA.

old garden at Seton Palace. The top of the stone forms a horizontal dial.

On Auchterhouse church, Forfarshire, a semi-cylindrical and two triangular dials are sunk in a stone on the gable, which bears the date 1630.

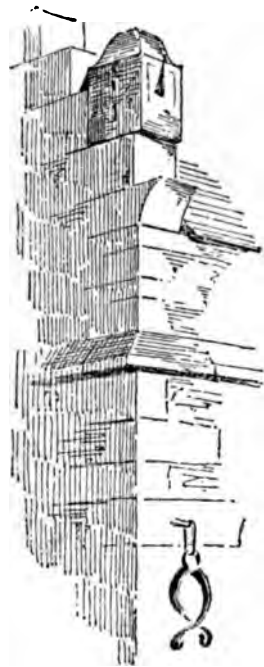
There are several examples of terminal dials, placed on the apex or on the lower end of a gable. Corstorphine Church (near Edinburgh) has

seven to its own share. Belmont, in the same neighbourhood, has one. Pencaitland Church has one with four faces on the apex of the east gable, another with three faces on the south-west buttress, and a single-faced dial with a large iron gnomon near the top of the quaint tower. A view of St. Giles' Church, Edinburgh, taken in 1790, shows a terminal dial on the apex of the gable of the Chapman aisle. At Hawick a block of stone with two dial faces, and date 1683, was found, in 1888, built into the fireplace of a house. It had been in its palmy days the chief time teller to the inhabitants of Hawick, who possessed no public clock till

the erection of the Tolbooth in 1694. Similar dial stones are often seen on cottages at the termination of the eaves or end of gables.

At Clackmannan the dial on the lower end of a gable is circular on a square basis, and surmounted by a cherub's head. A similar specimen is at Summerhall, Edinburgh.

A fine hexagonal block with four vertical dials is at Kinross House, and the following information as to the maker was supplied to Mr. Ross: "John Hamilton, mason, servitor to Mr. James Smith, overseer of his Majesty's works, cut the two sun-dials still standing on the walls of the office courts to the right and left of the house, between 14th April and 28th June, 1686." Mr. Smith was son-in-law to Robert Mylne, the King's master mason. James Anderson, a local mason, hewed the "basses" for the dials.



FOUNTAINHALL.

On a modern house at Elie, Fifeshire, a very fine old doorway has been placed. It is dated 1682, and bears an armorial shield, and the initials of Andrew Gillespie and his wife, Christian Small. This is crowned at the top of the archway by a block of stone cut into several dial faces, both sunk and plane. The doorway and dial formerly belonged to a house called the "Muckle Yett," which was taken down some years ago.

There is a dial with two faces in a peculiar position at Fountainhall, Midlothian. It stands on the lower "corbie" step of a pigeon-house, with the strange accompaniment of a pair of "jougs," an iron collar for securing a prisoner. The house belonged, in the seventeenth century, to Sir John Lauder, Lord Fountainhall, a distinguished Scottish judge, who occasionally held courts of justice at his own residence. He was counsel to the unfortunate Earl of Argyle in 1681,

and died at an advanced age in 1722. The road to the house led past the pigeon-house, so that the dial and joughs could be seen by all. Did any thought of Shakespeare suggest itself to some of the travellers along that road?

Orl. Who doth Time gallop withal?

Ros. With a thief to the gallows; for though he go as softly as foot can fall, he thinks himself too soon there.

Orl. Who stays it still withal?

Ros. With lawyers in the vacation; for they sleep between term and term, and then they perceive not how time moves."

The dial is now in a dilapidated condition. There is another, single faced, on a corner of the old mansion of Fountainhall, thought to have been put up by Sir Andrew Lauder at the end of the eighteenth century.

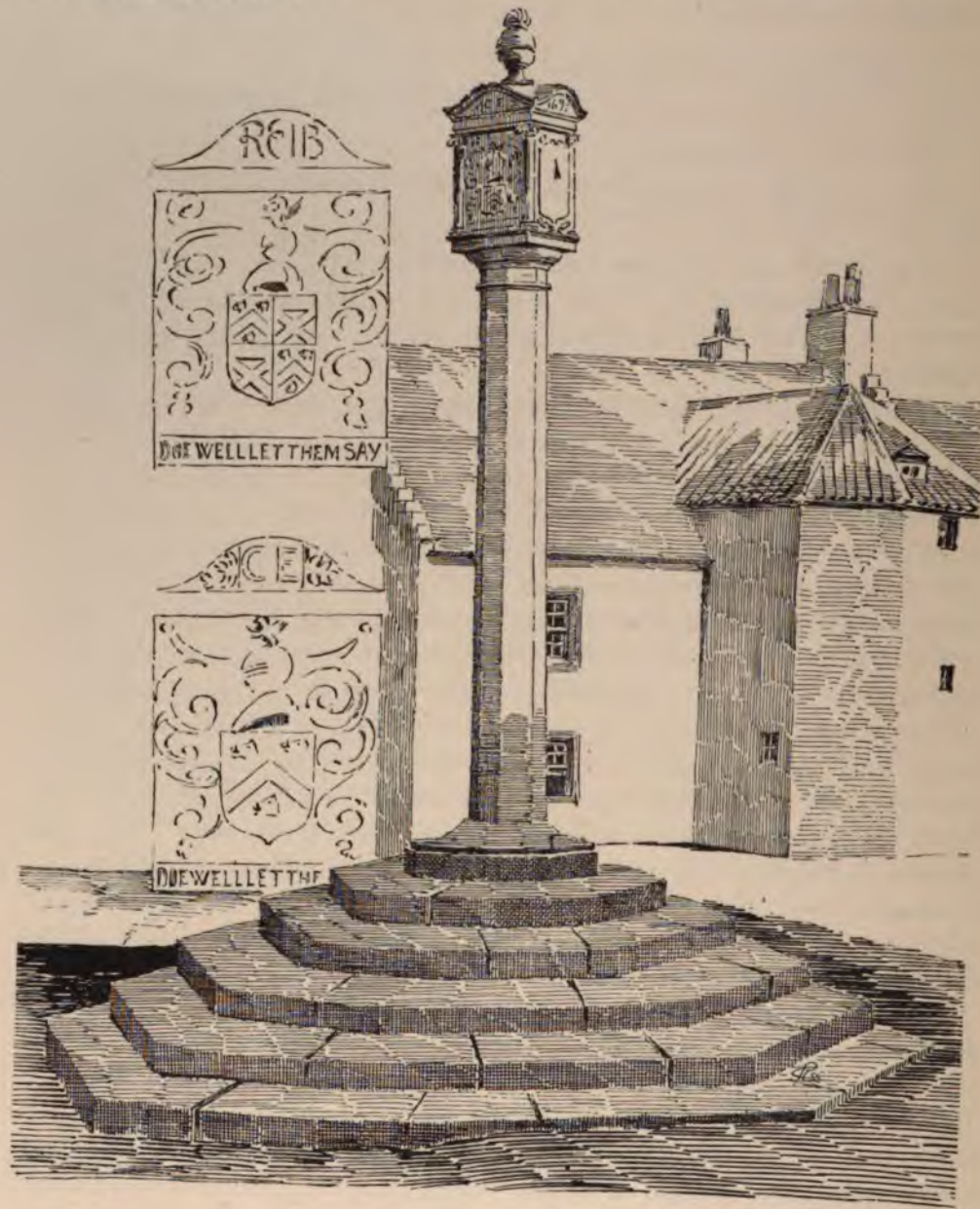
There are several market crosses which bear dials, and these being often pillars of fine design, mounted on steps and adorned with the shield and crest of the lord of the manor, are fine features in the market-place of a country town. At Inverkeithing, Fifeshire, the pillar is surmounted by a unicorn, sejant and collared, supporting a shield whereon is the cross of St. Andrew, and below the unicorn are the dials. On the capital of the pillar are placed shields with the royal arms impaled with those of Drummond. The dials are probably of the seventeenth century, the pillar may be much earlier. The height of the whole is 14 feet 6 inches.

At Airth, Stirlingshire, the pillar is mounted on a base with several steps, and supports a cubical stone with dials on two faces; over one of which is the date 1697. Of the other two faces one bears the Elphinstone arms, and motto, "Doe well let them say:" with the initials C. E. above it; and the other has the Elphinstone and Bruce arms quartered, and the initials of Richard Elphinstone, eldest son of Sir Thomas Elphinstone, of Cadder Hall, and those of his wife, Isabella Bruce.

At Fettercairn, Kincardineshire, the shaft is octagonal, and the crowning block has a dial on its south face only. The date, 1670, is on the north side, and on the other are the initials and arms of John, first Earl of Middleton; and on the shaft, which was brought from Kincardine, is a representation of the standard Scottish ell, 3 feet $1\frac{1}{2}$ inches long. This pillar is noticed by the Queen in her "Journal of our life in the Highlands."

The dials on the cross at Doune are small and somewhat defaced, and are surmounted by a lion. At Galashiels the dial has been renewed, but the vane at the top has the date 1695. The dial pillars at

Pencaitland and Houston are probably also seventeenth century work. The pillar at Nairn is small and plain, about 7 feet 6 inches high, and is in a bad condition.



AIRTH.

The market cross of Lochmaben, Dumfriesshire, is surmounted by a dial having four faces, and is crowned by a stone ball. The shaft,

made of a single stone 9 feet high, is older than the dials and the cornice, which all belong to the seventeenth century.

The cross at Peebles, which stood on a platform ten feet high, was taken down some years ago, and put away in the Chambers Museum. It also has shields of arms round the capital, and is about 12 feet high, and dated 1699. The dial block at Elgin has four faces, and is dated 1733, but the pillar and steps are probably much older.

Horizontal attached dials are found in two places of interest, on the bridge of Berwick-upon-Tweed, and the "Auld Brig" of Ayr. There is also a specimen on a window-sill of the first floor at Crichton House, which must have been put in when the house was built, in the seventeenth century; and another occupies a similar position on the sill of a window in an old house situated on the north side of Melrose Abbey.

The "detached dials" are also divided by Mr. Ross into four classes: obelisk, lectern-shaped, facet-headed, and horizontal. Of the first class he writes:

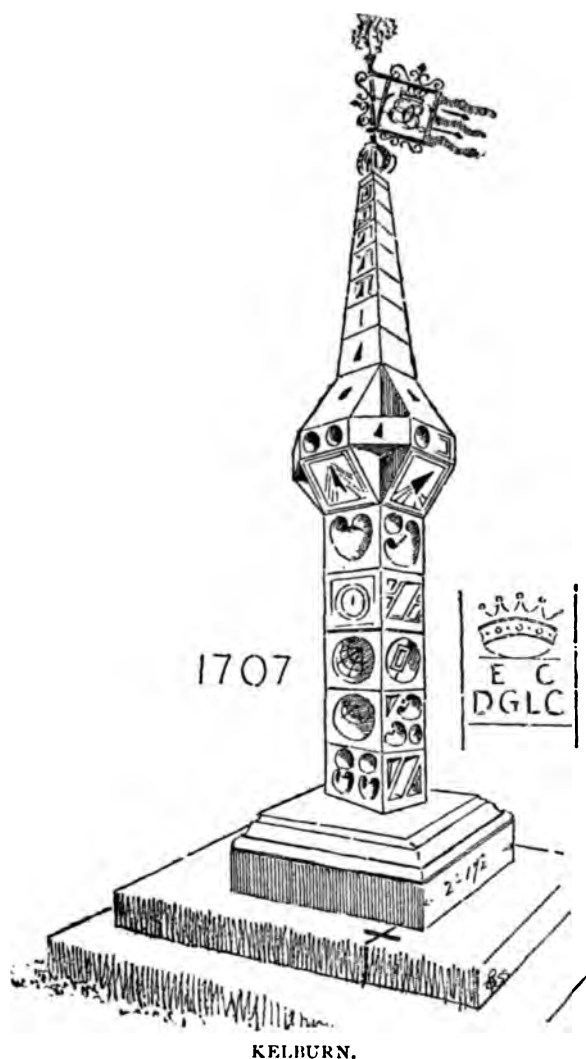
"The constant parts of these dials are—a square shaft, a bulged capital, and a tapering finial. Where the dial is of the normal type and unaltered, the shaft is divided on each side into five horizontal spaces by incised lines, thus presenting twenty compartments. These compartments are hollowed out into cup-shaped, heart-shaped, triangular, and other sinkings, which are generally lineated so as to mark the hours, and were without doubt always meant to be so. The sharp edge of the figure casts the shadow, which is especially distinct in the angular shapes and at the top of the heart-sinkings, where there is often a certain amount of undercutting. Stone gnomons of various forms are frequently left in the cup-hollows, and metal styles are to be found in all the dials. Occasionally some of the spaces are left blank, and on the north side, initials, dates, and arms, sometimes occur.

"The capital is always bulged out so as to form an octagon in the centre, with an upright facet on each of the eight sides, having a dial on each. Above and below each facet over the four sides of the shafts are sloping facets, with a reclining dial or a proclining dial on each—the former being those dials whose faces slope towards the sky, and the latter those whose faces slope towards the ground. The eight triangular pieces formed by the meeting of the square and octagon are cut out, and most effective shadows, from an artistic point of view, result from this arrangement, giving an air of dignity to the capital, which is wanting in the one instance (at Drummond Castle) where this arrangement is departed from. The upright facets of the octagonal part have heart-shaped and cup-shaped sinkings, as in the shaft; but the proclining and

reclining parts seldom have sinkings. Nor has the tapering finial ever any sinkings; like the shaft, this part is divided by horizontal incised lines, the number of spaces, for which there appears to have been no rule, varying according to the height of the finial.

"These dials are generally set on some kind of base, consisting either of steps or a pedestal—the forms frequently alternate—being set square and diagonally as they ascend. The pedestals have a general resemblance to each other, being frequently ornamented with representations of the sun and the moon in almost identical lines, as at Meggatland and Kelburn."

The dials at Kelburn House, Ayrshire, where there are two obelisks much resembling each other, are not the earliest, though they are among the noblest of this class. The finest of the pillars at Kelburn is dated 1707, and the initials ^{E.D.}_{G.} and ^{L.C.}_{C.} are those of David Boyle, first Earl of Glasgow, and his wife, Margaret Lindsay Crawford. The pillar rises to a height of 8 feet 6 inches, and is crowned by a vane of beautifully wrought iron work, in which these initials, entwined, again appear, surmounted by a coronet, and the point of the vane ends in a thistle. The second obelisk, which stands on a pedestal in



KELBURN.

the centre of a stone basin filled with water, is constructed like the first, but the upper part is plain and crowned with a ball. It looks as if the stone had at some time given way, and been replaced by a tapering finial of an ordinary type.

The dial formerly at Barnton House (dated 1692), and now removed to Sauchie, Stirlingshire, as well as those at Bonnington House, and Meggatland, Midlothian, are from 7 to 9 feet high; the latter is set on

a fine pedestal, and the two former on steps placed anglewise. The one at Barnbogle Castle is a few inches lower, and like the Bonnington dial, bears the Cunningham arms. It stood for some time in a cottage garden at Lang-Green, but was removed to Barnbogle when the castle was rebuilt by the Earl of Rosebery a few years ago.

The remains of an obelisk dial, formerly the town cross of Leven, in Fifeshire, were found in 1889 built into a garden wall. When removed and put together, the dial was placed in the care of the trustees of the Greig Institute, and the base inscribed as follows :

"Leven Cross, formerly on Carpenter's Brae. Removed 1767. Restored and rebuilt by James Anderson of Norton, 1889."

The pillar had been taken down in 1767 to give room for the passage of the funeral of Mr. John Gibson of Durie !

Lord Reay's dial at Tongue House, Sutherland, is a remarkably fine pillar, with dials almost innumerable. It is 7 feet 4 inches high, and dated 1714. It was noticed by Bishop Pocock when he travelled through Scotland in 1760. It is said that the stone, a red sandstone, has perished from the weather, and that the dials have suffered accordingly. The upper part has been restored.

The obelisk dial at Mountstuart reaches the height of 11 feet 4 inches including the pedestal. There are dials all over the pillar, and the sun's face on three sides of the pedestal. The dial at Ballindalloch is of the same type. At Lennox Castle the shaft is shorter and the dials fewer. At Carberry Tower the obelisk stands on four balls, as does the plainer one at Invermay. That in Drummond Castle gardens, which is much clumsier in design, is noticed in the collection of mottoes.

An old dial in the garden of Auchenbowie near Stirling resembles the lower half of an obelisk dial. There is also a very fine obelisk dial in the gardens at Ardlamont in Argyleshire.

At Craigiehall, Midlothian, an obelisk dial, which had probably been broken, was set up again about the middle of the last century on a new base of unique design. This consisted of "a globe about 2 feet 2 inches in diameter, into which the shaft is fitted, burying the whole of one of the five spaces. The globe is supported on a rounded base, and the whole rests on a square plinth." The upper portion was



also renewed, but the outline is slightly curved, and there are no dials upon it.

The obelisk dial at Lochgoilhead formerly stood in what formed the marketplace, and in front of the village inn. It now stands about 20 yards away from its old position, and has been repaired and protected, but all the gnomons are gone. The stone bears the date 1626, above which is a St. Andrew's cross, the initials *c.^sc.*, and on another stone *H.^dM.* The initials are thought to refer to some member of the family of Campbell of Ardkinglas.

Throughout the great sun-dial making period in Scotland, which, beginning in the sixteenth, lasted far into the eighteenth century, the making of dials of all the types already named seems to have gone on at one and the same time. The greatest number as well as the finest specimens belong to the period between 1620 and 1720. From whence came the inspiration? As regards Scottish architecture we are told¹ that the mixed style of the period between 1542 and 1700 is rather from Germany and the Low Countries than French. Our English sixteenth century detached dials are associated with such names as Kratzer, Holbein, Haveas of Cleves; but whether the art crossed the border from Scotland in the reign of James I., or whether the Scotsmen brought the first conception from Germany, and then carried it to a perfection which seems to have been attained nowhere else is a question which must, for the present, at any rate, remain undecided.

"The characteristic elements of the lectern-shaped dials," says Mr. Ross, "are a shaft (on which there are no dials) and a stone supported upon it, cut in a peculiar manner so as to contain several sun-dials, the whole having a very decided resemblance to a music stand or lectern. The dial stone is cut, angled, bevelled, and hollowed into a multiplicity of parts not easily described. In a general way the front and back present sloping surfaces, and the ends or sides are perpendicular. On the front slope there is left a square block, 3 or 4 inches thick, not unlike a closed book resting on a lectern. Suppose a square cut out of each corner of the book so as to leave the form of a Greek cross, and four semi-circles cut out of the ends of the four arms of the cross, thus leaving eight horns, and you have the principal and universal feature of this kind of dial. Further, suppose the cross to be placed well up on the slope so as to project beyond it, and the projecting part containing the semi-cylinder cut out of its upper side continued down the sloping back of the dial, and you have another constant feature of this design. The forerunners

¹ "McGibbon and Ross. *Cast. Arch. Scot.*" v. ii. 13.

of this pattern we saw in the dials at Oldhamstocks and Cockburnspath, where a semicircular hollow is employed. The lower parts of the stone generally contains proclining dials, which are almost concealed from view.'

Mr. Ross traces the design of these dials to that of an astronomical instrument such as is figured in Apian's "Book of Instruments" (1533), called the Torquetum of Apian. By this instrument "the position of the sun, moon, and stars can be indicated at any hour, and the hour of the day and night can be told from any visible star." It is represented in Holbein's picture of "The Ambassadors."¹ "The study of astronomy and the invention of all kinds of instruments connected with it were very common in the sixteenth century, and the above figure, or some similar one, invented for astronomical purposes, has in all probability suggested the shape of the dial."

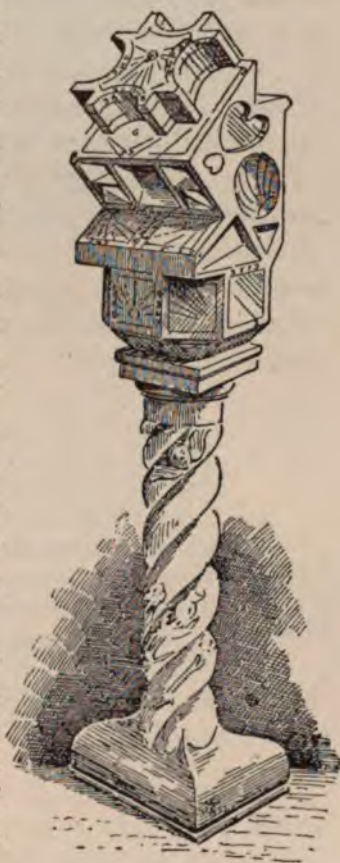
The finest dial of this type is now at Woodhouselee, having been brought there from Wrychtis House, Edinburgh, and has eight vertical dials besides the usual ones common to the lectern-shaped type. It is 3 feet 6 inches high, and mounted on a twisted column.

The dial at Ruchlaw, in East Lothian, is perhaps more graceful if less elaborate; it has thirty-five dial faces and stands on an octagonal shaft of grey stone. It was repaired and set up in its present position about the beginning of this century by the great-grandfather of the present owner. Ruchlaw has been in the possession of the family of Sydserf since 1537.

On the house there are two carved window pediments with initials of Archibald Sydserf and his wife, and the date 1663, which is probably also the date of the dial. There is a second dial in the same garden, horizontal and of white marble, on a red sandstone pillar. This is a much later work.

Another fine lectern dial, formerly at Neidpath Castle, is now preserved in the Chambers' Institute, Peebles.

¹ See "The Mystery of Holbein's 'Ambassadors,'" by W. Dickes ("Magazine of Art," November, 1896).



WOODHOUSELEE.

The dial at Midcalder House, repaired by Lord Torpichen, varies from the usual type by having round the centre an "octagonal band, which is cut away beneath, and then splayed out from the octagon to the square with sloping and perpendicular dials." It is placed on a modern shaft designed by Mr. Ross.

A smaller specimen of the lectern type at Pitreavie, stands on a square pedestal, which bears the initials and arms of Sir Henry Wardlaw, and date 1644. The one at Ladyland's House is dated 1673.

One of the most remarkably placed dials of this class is at Dundas Castle, Linlithgowshire. It is on the terrace, which is probably not its original position, and stands above a castellated fountain, the top of which is reached by a flight of steps, and on this the dial stands, supported by an octagonal shaft adorned with winged figures, and in the centre of the basin of a second fountain. The sides of the fountain are elaborately decorated, and round them runs a Latin inscription, of which the following translation was given in "Summer Life on Land and Water at South Queensferry," by Mr. W. W. Fife :

"See, read, think and attend.

Through rocks and crags by pipes we lead these streams of water,
That the parched garden may be moistened by the spring,
Forbear to do harm therefore to the fountain and garden which thou seest.
Nor yet shouldst thou incline to injure the signs of the dial,
View and with grateful eyes enjoy these hours, and the garden,
And to the flowers may eager thirst be allayed by the fountain,
In the year of human salvation 1623."

Below this inscription is a further one, of which we again quote Mr. Fyfe's translation :

"Sir Walter Dundas in the year of our Lord, 1623, and sixty-first of his own age, erected and adorned, as an ornament of his country and family, sacred to the memory of himself, and as a future memorial of his posterity, as also an amusing recreation for friends, guests, and visitors, this fountain in the form of a castle, this dial with its retinue of goddesses, and this garden with its buildings, walls, and quadrangular walks, surrounded with stones, piled on high, rocks having been on all sides deeply cut out, which inconveniently covered the ground. Whoever thou art, who comest hither, we, so many half-fiendish spectres, are placed here lately by order, expressly for bugbears to the bad, so that the hideous show their visages, lest any meddling evil disposed person, should put forth his hand on the dial or garden. We warn robbers to depart, burglars to desist, nothing here is prey for plunder ! For the pleasure and enjoyment of spectators are all these placed here : but we, who rather laugh with joyous front to a free sight, we bid frankly the kind and welcome friends of the host. Boldly use every freedom with the master, the dial, the garden, and the garden-beds and couches—him for friendship and conversation, them for the recreation of the mind and thought. With ordinary things to content us here, is to be even with others, we envy not their better things."

The "fiends" alluded to are faces carved in medallions round the lower part of the fountain.

The pillar at Skibo Castle, Sutherland, is of simpler character than the preceding one, and stands about 3 feet 2 inches high. The block of dials faces the four points of the compass; on the north and south sides the dials are vertical, while on the east and west, and on the sloping top, they are sunk, and are concave, semi-cylindrical, and angular. The dial pillar doubtless belongs to the seventeenth century.



CARBERRY.

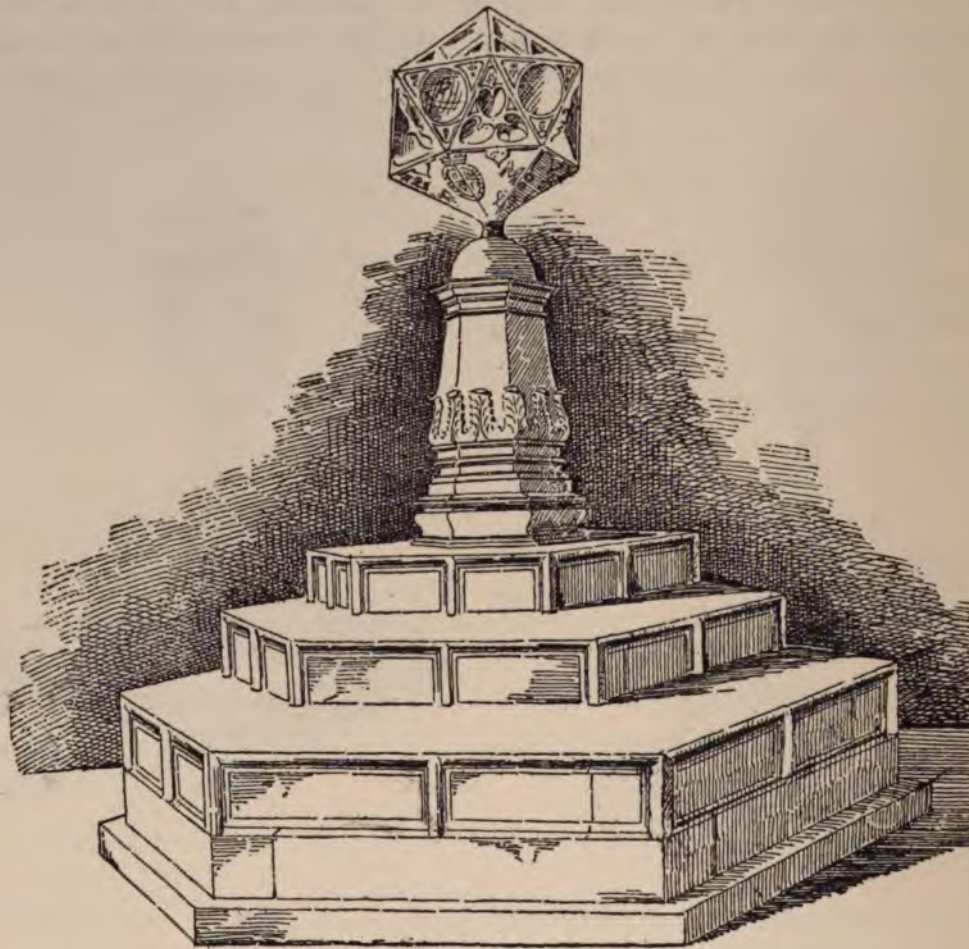


LAINSHAW.

A curiously cut lectern-shaped block, on a pedestal, which once stood in the Zoological Gardens in Edinburgh, has disappeared and cannot be traced. It is figured in "Chambers's Cyclopædia." The pedestal dial at Heriot's Hospital has also vanished into unknown regions.

The dial stone at Carberry, Haddingtonshire, is set on a unique pedestal, a short column, the capital of which is a female bust, with one face to the north and another to the south. The Ionic volutes and abacus above support the dial stone. There are eleven dials on this block, and one, pendant, on each shoulder. The base and steps are set diagonally, and the height of the whole is 3 feet 3 inches.

A very pretty specimen of a lectern dial was not long ago found, in pieces, in the garden at Lainshaw near Stewarton, Ayrshire, and was repaired and set up again by the present owner, Sir A. Cunningham. On the east and west sides are shields with the Cunningham arms, and beside them the initials A.^SC. and M.^DC., probably those of



HOLYROOD.

Sir Alexander Cunningham, created a baronet in 1672, and Dame Mary Cunningham, his wife, daughter of John Stewart, younger, of Blackhall.

One of the most interesting dials in Scotland, that called "Queen Mary's" at Holyrood, has not yet been mentioned. It belongs to the class of "facet-headed" dials, but the facets are covered with sinkings; heart-shaped, cup-shaped, and angular, and also with figures of very unusual forms, as in one hollow the nose of a grotesque face

forms the gnomon, in another a thistle-leaved ornament casts the necessary shadow. The dial stands in the palace gardens, on an hexagonal pillar, which is mounted on three steps. The under-surfaces bear the royal arms of Scotland with the collar and badge of the thistle, figures of St. Andrew and St. George, and the initials of Charles I. and Henrietta Maria. It is said to have been presented by Charles to the Queen, and the accounts of the Masters of Works show that in 1633 the sum of £408 15s. 6d. Scots was paid to "John Mylne, Maisonne, for the working and hewing of the diyell in the north yaird, with the pillar, stapis, degrees, and foundations thereof, and £66 13s. 4d. to John Bartoun for gilding, making, and graving the dyell" John Mylne was the King's master mason, and made the dial with the help of his two sons, John and Alexander. It stands, with the steps and base, 10 feet 3 inches high, and was rescued from a broken and ruined condition, repaired, and set up again in its present position, by desire of Queen Victoria.¹

A fine specimen of a dial of the Holyrood type, which was in the gardens of Warriston, Edinburgh, and probably belonged to Warriston House, now destroyed, has lately been removed to Fettes College. Another, dated 1697, is now at Melville House, Fifeshire, where it was erected about 1862, having been brought from Balgonie Castle after the sale of that estate. In the reign of Charles I. Balgonie Castle passed from the possession of the Sibbald family into that of General Alex. Lesley, first Earl of Leven. The dial was set up in the time of his granddaughter Katherine, Countess of Leven, and wife of the second Earl of Melville. There is a smaller dial of the same type at Invermay in Perthshire.

At Ellon Castle, Aberdeenshire, a dial with each facet hollowed, and crowned with a tapering finial and ball, stands on a finely-carved pedestal mounted on steps. The height is 8 feet 6 inches. It forms a singularly fine architectural monument. A similar dial block with a plainer pedestal is at Pitmedden, in the same county.

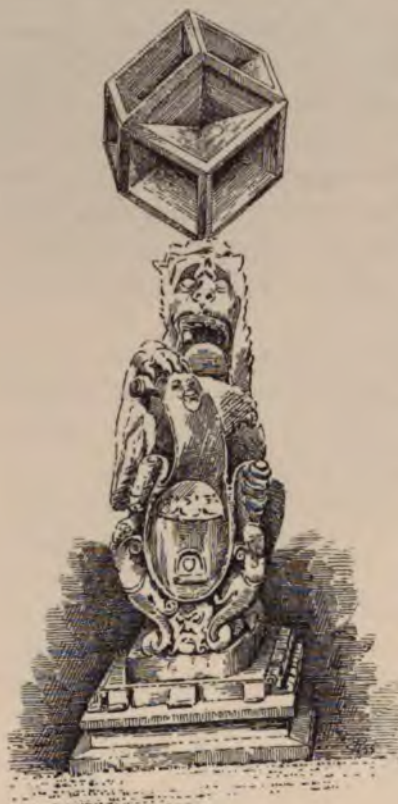
A dial stone now at Cammo, near Cramond, bearing sunk as well as plane dials, was brought there from the gardens of Minto House, Edinburgh. According to a plan of the city taken in 1742, Minto House lay south of the Cowgate, and its entrance was from Horse Wynd. The staircase of the house, says Robert Chambers, was forgotten till after the house was built!

Another very elaborate dial, bearing thirty-three gnomons, is at

¹Proceedings of the Edinburgh Architectural Association," vol. iii., Sessions 1880-81,

Cramond near Edinburgh. One of the faces is dated 1732, and bears the name "Sir Rob. Dickson." On another face is inscribed "Arch. Handasyde fecit." Sir Robert was chief baillie in Musselburgh in 1745, in which same town Handasyde worked as a mason. Some other dials in the neighbourhood appear to be also the work of Handasyde, as well as one on Inveresk Church. The dial at Cramond

its said to have been brought there from Lauriston Castle, about two miles distant. When it was first seen by Mr. Ross it was broken into three or four pieces, but he called the attention of the Committee of the Edinburgh Exhibition (1886) to it, and the dial was borrowed for exhibition and put into repair. The ball now at the top is a recent addition.



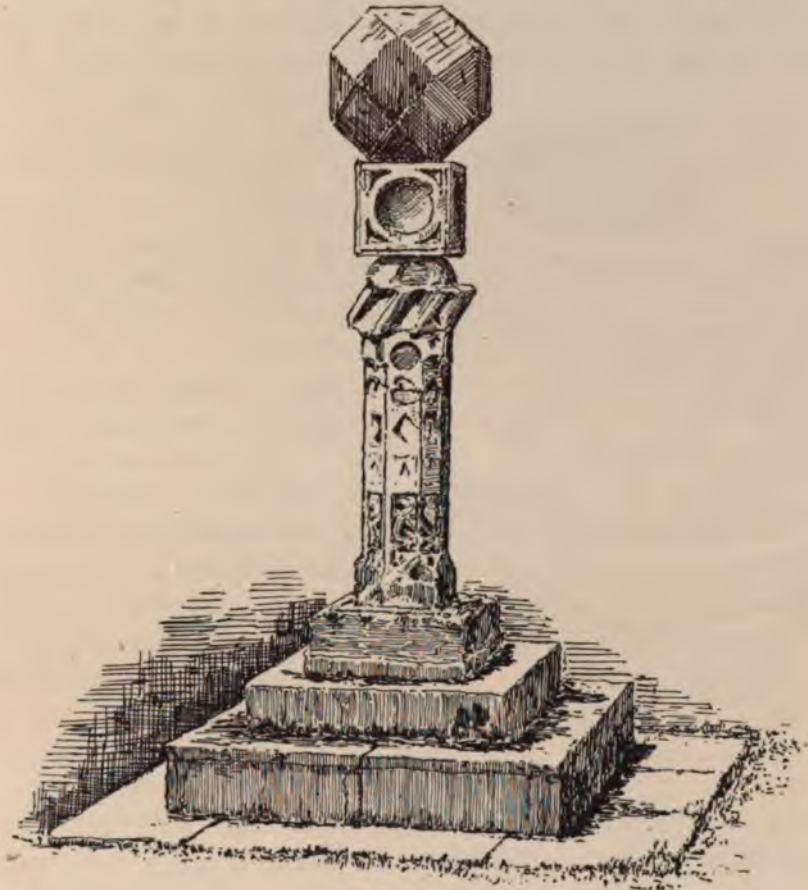
LEE CASTLE.

In the garden at Lee Castle, Lanarkshire, there is a fine dial, having the facets deeply hollowed, supported by a lion sitting on his haunches and holding "an enriched cartouch," on which are sculptured the family arms, the Lock Heart, from which the Lockharts of Lee took their name. At Waygateshaw a lion of grim appearance also holds a dial stone on his head, and at Pitferran, the lion alone remains. It holds a shield bearing the arms of Halkett, but the dial has disappeared.

Mount Melville, near St. Andrews, has in its garden a remarkable octagonal column crowned with a facet-headed dial stone. The column, which stands on four steps, has dials both plane and sunk arranged in regular rows round it, and of all varieties of shapes, oblong, angular, heart-shaped, and circular. The lower part of the shaft is carved with rose and thistle patterns, and on one face are two twisted serpents. "Above the dial shaft a collar contains a series of five cylinder-shaped hollows, and behind these four slanting oblong sunk dials. Above the collar, and resting on the base, there is a square block, having three large cup-shaped hollows, and a large heart-shaped hollow. Above the square block is placed the facet head." There are

altogether seventy dials. A somewhat similar dial is said to be at Craignethan Castle, Lanarkshire.

At Rubislaw Den, Aberdeenshire, two blocks of concave dials stand one above another on a wide stone base, supported by balusters. At the top is a stone ball marked with dial lines. The whole reaches a height of 9 feet 5 inches. It originally stood in the garden of the



MOUNT MELVILLE.

Earl Marischal's Aberdeen house, which was destroyed in 1789, and the dial was removed by Mr. Skene to Rubislaw. It remained there till the house fell to decay, and was then transferred to Rubislaw Den.

The dials at Midmar Castle and Duthie Park, Aberdeen, bear a strong resemblance to each other. Both have four concave dials mounted on a pedestal, and surmounted by four others—at Midmar sunk, and at Duthie Park plane dials—on the slope of the pinnacle.

There is a ball at the top of each, and at Aberdeen the hours and hour lines are painted on it. On the pedestal of this latter dial there are shields with the initials "C. G.," "G. B.," and date 1707, and also a pestle and mortar.

In the "formal garden" at Stobhall Castle, Perthshire, a singularly beautiful and interesting place, there is a dial pillar about 6 feet 3 inches high, with a square block at the top crowned by a ball, and each face of the block has a circular hollow about 10 inches in diameter. Half way up the shaft of the pillar is another square block, bearing

vertical dials, and at the angle of the north face there is a shield with the Drummond arms, an earl's coronet, and the initials E. I. P., for John, Earl of Perth. This probably refers to the second earl, who succeeded to the estates about 1612.



HADDINGTON.

Dr. Martine, of Haddington, possesses a very remarkable dial on a stone hollowed and shaped like a bowl or small font. One dial face is within the hollow, and round the outside there are eight concave dials with a mask between each. The stone is $11\frac{1}{2}$ inches high, $15\frac{1}{2}$ inches wide, and 6 inches deep inside.

There is another curious specimen at Haddington in the possession of Dr. Howden. It is made out of one block, and cut in a most irregular manner with plane and concave faces. A horizontal dial is on the top. The block stands on a wreathed pillar 2 feet 6 inches high.

At North Barr, Renfrewshire, a dial stone in the old garden is mounted on a pedestal which is quite unique. This is the figure of a lady in seventeenth-century costume, holding a rose in one hand and gathering up her skirts with the other. Two solid stone curls, which rest upon her shoulders, help to support the block of dials which she carries on her head. This is octagonal, and has seventeen faces, some of which are plane and some hollowed. The figure stands as originally placed, and bears the date 1679, and the initials of Donald McGil-

livray, a Glasgow merchant, who built his house at North Barr, and died in 1684. Mr. Ross considers it to be the work of one James Gifford, a sculptor, who lived at West Linton, Peebleshire. He erected a



GLAMIS CASTLE.

cross on a well there, and on the top of it he placed a statue of his wife, which bears a considerable resemblance to the figure at North Barr.

Perhaps the most beautiful dial which the world can show is at Glamis Castle, that place of mystery and legend. It is simply a

masterpiece ; nothing so grand can be seen anywhere else. It stands 21 feet 3 inches high. Above the base there are four lions erect, each holding a shield on which is a dial face, and the names of months and days are engraved below. These figures, between which are twisted pillars, support a cornice and canopy, and above there is a faceted block, cut into eighty triangular dial planes. An earl's coronet supported by four carved scrolls is on the top. The name and arms of the Strathmore family account for the introduction of the lions. Glamis was originally the inheritance of Macbeth :

"By Sinel's death I know I am Thane of Glamis."

It was granted in the fourteenth century to Sir John Lyon, ancestor of the present Earl of Strathmore, and the castle was rebuilt in the seventeenth century. We are told that the Chevalier slept there in 1715, "and had above eighty beds made up for himself and his retinue." The dial stands on the lawn in front of the castle, and was set up in the time of Earl Patrick (1647-1695), who mentions it in his "Book of Record."

The two dials at Newbattle Abbey, which are still in the gardens, though not as originally placed, are exactly alike, and stand about 16 feet high, including the steps on which they are mounted. Each consists of an octagonal block, which, placed on a pedestal, bears two tiers of vertical dials, and is surmounted by a carved finial. The arms and initials of William, first Earl of Lothian, and Anne his wife, with a sun, the crest of the Kers, are on the north side of the block. These dials were erected in 1635.

At Polton, near Edinburgh, there are two dials of late seventeenth century date. One shows a figure of Time in relief, holding a scythe, and supporting a globe on his knee ; a square dial face is below. The other is a fragment ; a hexagonally carved stone rests on a square base, and on the faces of both there have been dials. The date 1685 is on one of the blocks, and 1672 on a lintel which is now placed with them. They are arranged somewhat confusedly against a garden wall, so as to form a rockery, but are evidently the remains of what was once a very fine structure. The carved finial at the top resembles those at Newbattle.

At Dunglass, Haddingtonshire, on the top of a mound near the ruined collegiate church, a square stone with four vertical dials stands on what seems to be a broad projecting square basin, "the pedestal of which, cut out of one stone, is fashioned with four pilasters at the

angles; these are fully relieved, showing daylight between." The upper surface of the serving basin is flat.

An obelisk dial, formerly at Barnton House, has been already noticed. Another stone structure, once at the same place, but now at Sauchie, Stirlingshire, has two tiers of vertical dials mounted on a pedestal which stands on steps placed anglewise, and reaches altogether to the height of 10 feet $2\frac{1}{2}$ inches. Lord Balmerinoch's arms are on the north face. It would seem that this dial must have been removed from the old house at Barnton, built by Lord Balmerinoch in 1623, and was probably set up by the fourth lord, who sold Barnton in 1688. His son, the last Lord Balmerinoch, took part in the rebellion of 1745, and was beheaded on Tower Hill.

The dial at Pinkie House, Midlothian, is supposed to have been put up by Alexander Seton, Earl of Dunfermline, who died there in 1622. It is a stone cube with vertical dials, crowned by a finial of the same style as those at Newbattle, and stands on a garden wall. There is also a fine specimen of a horizontal dial at Pinkie, but it is broken into two pieces. The sides are scalloped, and enclose sunk and plane vertical dials, and twisted serpents. There are vertical dials also on the house.

At Forgue, Elgin, a block of vertical dials with cherubs' heads at the top, which seems once to have been built into the corner of the wall, has now been mounted on a pedestal and fixed on the buttress of St. Margaret's Church. It has belonged for several generations to the family of the Rev. William Temple, and the names of six of his ancestors, with the dates of their death, are cut on the pedestal. The date of the dial is 1710.

At Bowland, near Galashiels, there are two solid stone posts to what was once a gateway entrance, and on the tapering top of each is a globe round which the hours are figured. The gnomon is an iron rod pointing from the north pole.

At Inch House, Midlothian, a horizontal octagonal dial is surrounded by vertical and hollow faces on the eight sides. These are supported by cherubs' heads, like those at Heriot's Hospital, which in their turn rest upon a cubical base bearing three dials and the arms of the Preston family. The whole stands on an ivy-covered pedestal.

At New Hall, Penicuik, a globe is poised on the top of a hollow cylinder, which serves as the gnomon of a horizontal dial.

In the grounds of Kilmarten, in Glen Urquhart, Inverness-shire, there is a dial 5 feet high, consisting of a square block of stone resting on four marble balls. The face is of copper, and has the Ogilvy crest

engraved on it, and the motto *Alma fide*. It was set up at Coniemony, in Glen Urquhart, in 1840, by Mr. Thomas Ogilvy, and on the sale of that estate the dial was removed to Kilmarten.

Another modern dial is at Leuchars, and was designed by Lady John Scott.

A curious dial at the Haining, Selkirk, is covered with masonic symbols: "an arch springing from Ionic columns enclosing the All-seeing Eye within a wreath, the compass, square, and triangle, and various other figures." It was the work of a mason employed at the Haining in 1817.

For particulars as well as illustrations of these and other dials we can only refer our readers to the beautiful work already mentioned, "Castellated Architecture of Scotland," vol. v., where there are many more described, especially of the vertical and horizontal types, than we have space even to name, and there are probably quite as many still unnoticed. It is satisfactory to learn that, by the attention called to some of the finer specimens, several have been rescued from decay and set up again.

At Riccarton Castle, Midlothian, there is a dial of grey stone inscribed "Robert Palmer fecit, 1829," most scientifically constructed, and another by the same maker is in the neighbouring churchyard of Currie. This was presented by Palmer to the parishioners and heritors in 1836. Palmer was a village schoolmaster and taught the elements of astronomy, the walls of his schoolroom being covered with astronomical diagrams. Other schoolmasters made dials and taught dialling to their pupils. Burns studied it; Hugh Wilson, composer of the hymn tune "Martyrdom," made a dial which is still at Fenwick near Falkirk, and the number of dials at such places as Prestonpans and Newstead shows how thoroughly the art was understood by working masons.

The Kirk Sessions records for 1744, of Essie and Nevay, Forfarshire, notice that a mason had been fined £6 (Scots) for some misdemeanour, but being a poor man, and having with other work "made a dial for the West Church," he was forgiven. This shows the high esteem in which dial-makers were held in the eighteenth century.¹

A splendid Celtic cross which stands near the old Priory Church on the island of Oronsay, has a horizontal dial roughly cut on the corner of its socket stone. The cross is inscribed with the name of Prior Colin, who died in 1510: *Haec est crux Colini filii Christi*. The dial, which is probably of later date, is circular, with seventeen distinct rays, an outer ring, and a central hole for the gnomon. It has a diameter of 11½ inches. There may once have been twenty-four rays, but part of

¹ "Strathmore Past and Present" (Rev. J. G. Macpherson).

the stone is now decayed, and the rubbing which has been sent to us only shows hour lines from 4 a.m. to 8 p.m. Tradition says that people who passed the cross to enter the church, used to place a stone, sunwise, in the gnomon hole "for luck." It must be many years since anyone went to worship in the church, which, with the adjacent buildings of the priory, founded in the fourteenth century by John of Isla, Lord of the Isles, has long been in ruins. The dial is shown in a lithograph of the cross given by Dr. Stuart in his "Sculptured Stones of Scotland."

The dial made by Hugh Miller when a young man still stands at Cromarty, and near it are the remains of an old lectern-shaped block dug up by him in his boyhood, which had once belonged to the Castle garden at Cromarty. There was, too, a sun-dial, moss-grown and weatherbeaten, standing in the lonely graveyard beside the ruined chapel on Conan-side, which lived in his memory for many years. "A few broken walls rose on the highest peak of the eminence, the slope was occupied by little mossy hillocks and sorely-lichened tombstones that mark the ancient graveyard, and among the tombs immediately beside the ruin there stood a rustic dial, with its iron gnomon worn to an oxidized film, and green with weather stains and moss. And around this little lonely yard sprang the young wood, but just open enough towards the west to admit in slant lines along the tombstones and the ruins, the red light of the setting sun."¹

The thoughts suggested by this scene were embodied in "Lines to a Sun-dial in a Churchyard":

* * * *

"Grey dial stone, I fain would know
 What motive placed thee here,
 Where sadness heaves the frequent sigh
 And drops the frequent tear.
 Like thy carved plane, grey dial stone,
 Grief's weary mourners be:
 Dark sorrow metes out time to them,
 Dark shade metes time to thee.
 * * * *

Grey dial stone, while yet thy shade
 Points out those hours are mine,—
 While yet at every morn I rise,
 And rest at day's decline,—
 Would that the SUN that formed thine,
 His bright rays beamed on me,
 That I, wise for the final day,
 Might measure time, like thee!"

¹ "My Schools and Schoolmasters," by Hugh Miller.

CHAPTER XI

FOREIGN DIALS

"Thy glass will show thee how thy beauties wear,
Thy dial how thy precious minutes waste."

SHAKESPEARE, Sonnet lxxvii.

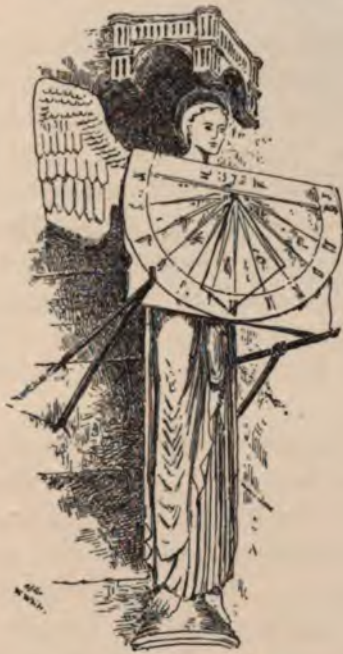
THE collections of sun-dial mottoes made by Baron de Rivière and Dr. Blanchard, which we have incorporated with our own, add greatly to our knowledge, not only of the inscriptions, but of the forms of many French dials. So far as we can judge from these notices there are either no remains in France of those monumental dials of which Scotland possesses so many, and England a few fine examples, or else they have escaped the observation of these accomplished writers. French influence was so strong in Scotland in the days of the Stuart kings, that we might have expected to find in France the prototype of the Scottish dials. But we have looked in vain. It is true that a fine specimen of the two-faced attached dial with stone gnomons, such as is found on Heriot's Hospital and other houses in Scotland, has been noticed at Rouelles¹ in Normandy, above a window of the church, and is thought to date from about the year 1500, but the majority of French dials appear to be of the simple vertical and horizontal types, with the exception of some curious and elaborate constructions which will be hereafter described.

No dial could be more beautifully placed than the one on Chartres Cathedral. It is semicircular, on a stone slab held by an angel, one of the tall and dignified Byzantine figures that adorn the outside of that noble building. It stands under a canopy at the south-west angle of the cathedral. The date on the dial is 1582, but some antiquaries have thought that there may have been an earlier stone, coeval with the figure, and that the dial had formed part of the original design. Amongst the angels which stand above the flying buttresses on the south side of Rheims Cathedral there is one which holds a semicircular

¹ "Journ. Brit. Arch. Assoc.," September, 1873, p. 280.

stone in a similar position, and though neither numerals nor lines can be discerned from below, and there is no gnomon, the resemblance to a dial is certainly strong. It was a beautiful thought to place the figure of an angelic watcher as recorder of those hours which an angel can only know in his capacity as a ministering spirit to man. Perhaps it was suggested by the mention of the angel in the Book of Revelation standing on the earth and the sea and proclaiming the end of Time and the finishing of the mystery of God.

At Laon Cathedral the angel is on one of the outbuildings, and the date



CHARTRES.



LAON.

on the dial-slab is 1748. The figure and canopy are, of course, much earlier. On Falaise Cathedral there is a dial, but a perfectly plain one; Amiens has one also, almost illegible; and on the ruined abbey church of Jumièges there are the outlines of one with the numerals still visible. Baron de Rivière notices a dial on the porch of the cathedral at Albi.

In a list of dated church dials without mottoes from the Department du Morbihan, given by the same writer, the earliest date is A.D. 1550, from the church of Lanvégen. A dial on the church of Vieil Beauge (Maine-et-Loire), dated 1543, with one at St. Aubin des Ponts de Cé, are said to be the oldest in Anjou. At the Château de Josselin in Brittany there is a picturesque semicircular dial perched on a buttress, representing the bust of a man with the dial on his breast. The date

below is 1578. A dial once stood on the chapel of the Château de St. Foy, near Lyons, and was removed to the Musée Lapidaire at Lyons when the chapel was destroyed about fifty or sixty years ago.

In the old Place des Cordeliers at Lyons there formerly stood a tall column surmounted by a statue of Urania, holding a long gnomon which showed the hour of noon on a meridian line. The square was the rendezvous for all the wheeled traffic between Switzerland and Franche Comté, and the whole space between the column and the church of the Cordeliers was wont to be filled by the long *chars* of the country. The column was taken down in 1858.

Paris in former days possessed a great number of dials, several of which are noticed in the collection of mottoes. Only a few remain.



CHATEAU DE
JOSSELIN.

One of these is in the first court of the Institut, formerly the Collège des Quatre Nations, founded by Cardinal Mazarin. It is inscribed: "Veteris Collegii / Mazarinaci / Horarium Solare / Anno Domini / MDCCCLVI / Restitutum /." Fr. Bedos de Celles gives in his "Gnomonique Pratique" (1771) an engraving of a vertical dial, 12 feet high by 10 feet 6 inches wide, made by him for the Abbey of St. Denis, and set up there in 1765.

A dial of very barbarous design was on the Bastille. It had for supporters the figures of a man and woman chained together by hands, feet, and neck, the chains also forming a wreath round the dial and the inscription belonging to it. The inscription has not been preserved, but an appropriate one might readily be supplied from the book of Job: "A land of darkness and of the shadow of death, and where the light is as darkness."

The column erected by Jean Bullant for Catherine de' Medici at the Hôtel de la Reine, afterwards the Hôtel de Soissons, and later the Halles au Blé, which served as an observatory for her astrologer, has now been built into the Halles. Originally there was a large ring of metal round it, on which the hours were shown by a ray of light passing over them. In the middle of the eighteenth century the astronomer Pingré drew lines for two dials upon the column, but none of these remain.

In 1763 an elaborate arrangement of meridian and hour lines, with tables of comparison showing the time of day in different parts of the world, etc., was drawn on the staircase walls of the Lycée at Grenoble by a learned Jesuit, probably under the direction of the celebrated Athanasius Kircher, who was in France at that time. The lines were traced

on the different flights of stairs, and the light was thrown on them from mirrors placed horizontally over the windows. By this means there was shown in lines and letters of different colours: (1) the French hours; (2) the Italian hours; (3) the Babylonian hours; (4) the signs of the Zodiac; (5) the months; (6) the four seasons; (7) the hours of sunrise and sunset. On the first flight there was also to be seen: (1) the Zodiac signs with their attributes; (2) the calendar of the Blessed Virgin Mary and her seven feasts; (3) a table of hours, or *horologium universale*, showing the time of day at twelve other towns beside Grenoble, and in ten countries; this was 8 feet high and 10 feet wide; (4) a *horologium novum*, or table to find the place of the sun and moon in the universe, of the same size as the other table; (5) a calendar of Jesuit saints.

On the second flight of stairs there was: (1) a calendar of the exploits of Louis XIV.; (2) a table to find the days of the moon; (3) a table of epacts from 1674 to 1721.

The meridian itself consisted of oblique lines traced on the side walls and vaulting of the staircase. Below the side window were the words: "Tempori et Æternitate, Picturus Anno 1673. Restauratum Prime 1755. Iter 1855." When the last account of these instruments was written, neither the gnomons nor their supports remained.

An ingenious dial was set up at Besançon in the eighteenth century by M. Bizot, a counsellor and a distinguished mathematician. The dial represented an angel holding a child in his right hand, and with his left hand pointing to the heavens. The hour lines and numerals were left in open work, and the rays of light which passed through them fell on the finger of the angel and showed the time of day. There was a slight projecting roof of zinc which protected the dial and cast a shadow over the head and hand of the angel. This dial was described in the "Journal des Savants" by the astronomer Lalande. M. Bizot made a second dial in the church of the Madeleine at Besançon, and there the light fell through a hole in a metal plate inserted in a window upon hour lines chiselled on the floor.

In the churchyard of Brou, near Bourg-en-Bresse, a curious sun-dial was made for the use of the workmen who built the church known to us through Matthew Arnold's poem:

" On Sundays at the matin chime
The Alpine peasants, two and three,
Climb up here to pray:
Burghers and dames, at summer's prime,
Ride out to church from Chambery,

Dight with mantles gay ;
But else it is a lonely time
Round the church of Brou."

The building was begun in 1506. The dial was a horizontal circle, 33 feet in diameter. The spectator himself formed the gnomon, and by standing on a particular spot on the initial letter which indicated the current month, saw his shadow fall upon the hour he wished to ascertain. The hours were marked in bricks, which were nearly worn away when M. Lalande replaced them by stones. This was nearly a century and a half ago, and probably by this time the stones have also been worn away and displaced, and the hours are known no more.

A dial was made in a similar manner at Dijon early in the nineteenth century by M. Caumont. There were twenty-four stone slabs placed in a circle on the ground, and within them were four octagonal blocks which gave the points of the compass, and slabs of 6 feet long to mark the meridian and the east and west lines. The outer slabs were numbered according to the hours, and the signs of the Zodiac were engraved on the blocks. The observer, by placing an upright stick on the meridian line opposite the initial letter of the month, could ascertain the correct time. In 1840 this dial had to be removed to make way for the building of the citadel, and after some years was placed at the end of the promenade in the Parc, near the river Ouche. The account of it was written in 1856.

With regard to the artistic merit of the French dials, it will easily be believed that some of the designs are very fine, particularly in those that are cut in slate or engraved in metal. M. de Rivière gives an example of a slate slab beautifully carved in relief, dated 1655, which is now in the museum at Moulins.¹

Slate is a favourite substance for diallers to work upon. On a vertical dial on the church at Coutures (Maine-et-Loire) each of the hour lines terminates in a *fleur-de-lys*, and there follows an inscription :

FAIT . PAR . MOY :
JACQUES . ROVSSE
M . SÈR . HOME PRO
CVREVR . LE 1^{ier} 1 . 1691
IE . DE . MON . MIEV . DEVISE
LE . MILIEV . DV . SOLEIL.

[*Fait par moi Jacques Rousse, merchant sergier, homme procureur, le 1^{ier} Janvier, 1691. Je de mon mieux devise le milieu du soleil.*]

¹ "Bull : Mon." vol. xliv., p. 623.

A finely-engraved leaden plate is in the museum at Varzy. M. Grasset, the curator, published a description of it,¹ but was unable to decipher the last line of the inscription. The hour lines are in relief, and above them are the instruments of the Passion, viz., the crown of thorns, lance, scourge, reed and sponge, hammer and nails, with the cock, the ear of Malchus, thirty silver pieces, dice and lantern. Below the cross is a shield with the monogram "A. M.," and an inscription in Gothic characters is round the dial:

GUILLERMUS LEGRANT PRESBYTER CVM CHRISTO VIVAT FILICITER. AMEN.
CYMAR . . . ET SANS NVLLE POSE FU FAIT 1514.

In a country house at Tourcil, belonging in 1876 to M. Henri Joubert, a horizontal sun-dial of lead, with ornamental engraving in the corners, was preserved. The style was of copper, the numerals in Roman letters, and in the centre was inscribed:

VIVE JESUS. 1607
M. LALOY. LIMOGES.

A very finely-engraved horizontal dial is described by M. Planté.² It was found at Craon, and had belonged to the abbot of St. Serge, René de Briolay, to whom it was dedicated by the engraver, D. Jacobus Moraine, Carthusian, A.D. 1643. The plate was of copper gilt, a square of 33 centimètres, ornamented in the angles and about the centre with a charming arabesque design. In the centre of all are the arms of the abbot, with his name and anagram surrounding them: "Renatus Brioleus. Ut Rosa lenis rube."

Around the dial are the following lines, which contain the same anagram:

"Ornant stemma rosæ solis virtute rubentes,
Ut Rosa sic nobis lenis odore rube.
Dum tua sol lustrat solaria præsul amande
Totus divino solis amore rubes."

*"Roses adorn the wreath, blushing with the sunshine,
Do thou, like the rose, blush for us, gentle in perfume,
While the sun illumines thy sun-dials, beloved patron,
Thou dost blush all over with the sun's divine love."*

The arms are three roses with a star in the centre. There is also a dedicatory inscription.

¹ "Cadran solaire en plomb, portant la date 1514."

² "Gnomons et clepsydras," par Jules Planté, Laval, 1890.

Réné de Briolay was abbot of St. Serge in the diocese of Angers from 1628 to 1671. His humility and generosity were alike remarkable. He shared his revenues equally with the brethren of the monastery, and at his death desired that he might be buried in that part of the cemetery which was reserved for criminals, and that only a simple stone with a cross on it should be placed over his grave, and the words :

“ Hic jacet Renatus abbas et peccator maximus
Ita confidentissimus in misericordia Domini
Pareat illi Deus.”

During the Revolution a dial was placed on the château of Nevers, and was inscribed as follows by the celebrated Fouché : “ Ce cadran a été placé, le soleil entrant dans le signe du Taureau par ordre de la Convention Nationale.” (!)



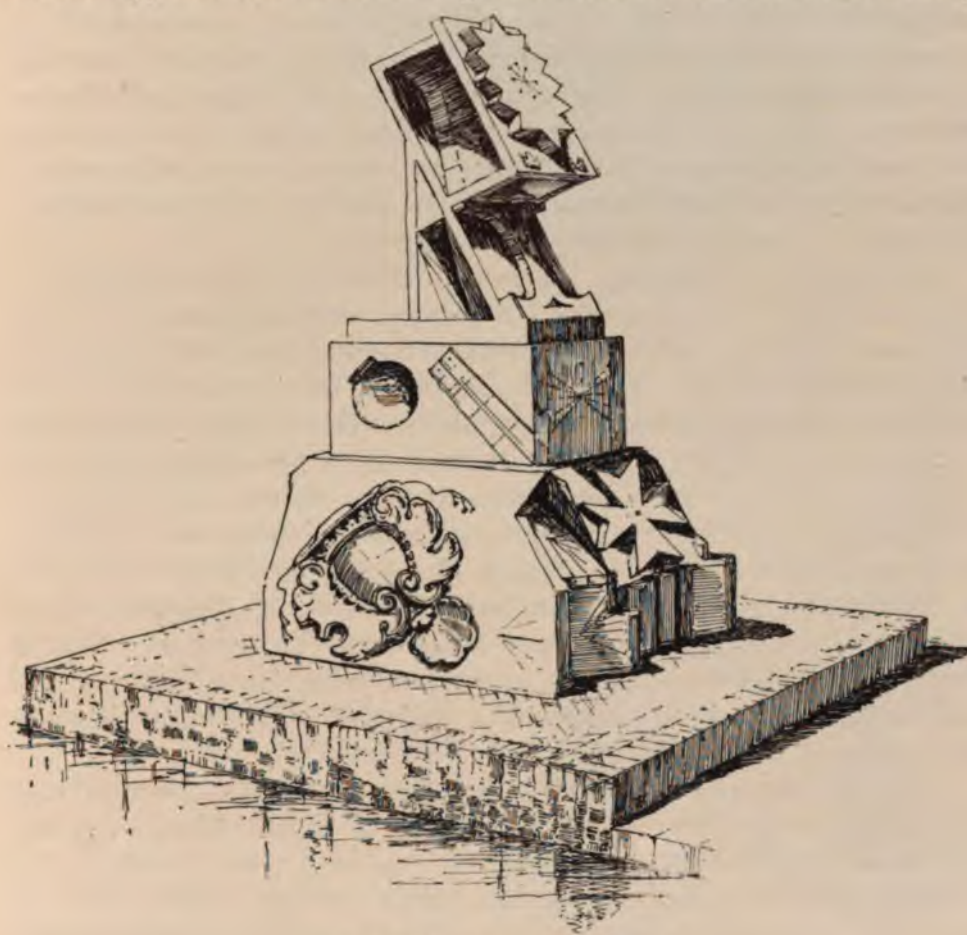
FROM THE CHÂTEAU
TOURNOUELLES.

References to the Revolution are also to be found on some of the Dauphiné dials, as on those at Veyrins (Isère) : “ Fait par Liobar l'an de l'heureuse Revolution Française, 1789.”

In the Museum at Clermont-Ferrand there is a curious little detached dial about a foot and a half high, and brought there from the Château de Tournouelles in Auvergne. It is made of white marble, but the lower half has been coloured a bright red, and a star painted on it. The top is a hollow globe, set, as it were, in a cup of a larger size, upon the rim of which the hours are marked by the shadow of a gnomon. On the pedestal there are various hollows and plane surfaces, on each of which one or more dials, amounting to thirty in all, are traced. It is said to be of the sixteenth century. M. de Rivière notices a dial in the same museum, with the inscription : LA . MIL . VE . XXVIII . AV . MOYS . DE . AOUS . F . ET . APOSSE . PAR . CLAVDE AVVRAY FAICT . LAN . 1613.

Spain is the only foreign country where we have found a dial block of the elaborate seventeenth-century type seen in England and Scotland. This fine specimen is at Buen Retiro, Churriana, near Malaga, and is of white marble and lectern-shaped. There are 150 dial faces upon it. On the upper face is a star, and below it are the royal arms of Spain, two castles and a lion for Castille and Leon. The dials on the sides are semi-cylindrical. The second tier bears vertical and small dials, one of the latter being in the form of a scallop shell.

On the lower part of the block there is another star, a cross, and plane dials are at different angles. The step on which the dial block rests is formed of thin flat bricks, the pavement being black and white. It stands beside a stone tank, on a terrace which faces a lovely view over a fruitful plain. The neighbouring hills glow in the sunlight, the sombre cypress trees cast their gloom around ; and the melancholy



BUEN RETIRO, CHURRIANA.

glance of Time seems to be present, throwing its shade over its own fleeting footsteps as these are expressed by the many gnomons on this remarkable instrument.

The white marble of the dial stone strongly contrasts with the dark sad green of the funereal trees ; and as among the devices cut on the sides are the scallop shell of the pilgrim, the star of hope, and the cross of Christian faith, in contrast with the ducal coronet, the cardinal's hat, and the royal quarterings, enough and more than enough is

suggested for serious meditation to anyone who visits this remarkable time-reckoner.

We have hardly any other dials from Spain. That of Charles V. at Yuste has been already noticed. A vertical one, surmounted by a royal crown, and placed on the top of a tower above a window, was sketched some thirty years ago in the cloisters of Burgos Cathedral ; and another vertical dial on one side of a stone, surmounted by a pinnacle, was seen on a grass plot near the railway station at Pancorba. It seems strange that no others should have been noticed, and that no vestiges of the work of the Arab astronomers should remain amongst the Moorish buildings of Andalusia. But the power of whitewash is great, and the average Spaniard, perhaps, did not much care whether the flight of Time was recorded for him or no.

In Italy it is different. Sun-dials abound, or did abound till a few years ago, when decay and whitewash overtook many of them. Yet, even there, we have few records of fine detached dials, though in the seventeenth and eighteenth centuries Italy produced several writers on gnomonics, and some members of the religious orders made a special study of the subject. It must be acknowledged that the researches which we have been able to make on the spot have been very partial and perfunctory. In recording the mottoes, of which there were many to be seen on mural dials, the uninscribed dials were apt to be overlooked. Two specimens have, however, been noticed which resemble in their form the hollowed hemicycle of the ancients. One of them is on a convent at Assisi ; another, standing on a little column, a *cippo*, is perched on the corner of a shop roof on the Ponte Vecchio at Florence.

There is also at Florence the interesting white marble vertical dial which projects from the façade of the church of Sta. Maria Novella, and bears the following inscription : COSM . MED . MAG . ETR . DUX . NOBILIUM ARTIUM STUDIOSUS, ASTRONOMIAE STUDIOSIS DEDIT, ANNO D. M.D.LXXII. [*Cosmo Medici, Grand Duke of Etruria, student of the ennobling arts, gave this to the students of astronomy, A.D. 1572.*] A corresponding slab on the left-hand side of the portal shows the "Armilla di Tolomeo," or *sphere of Ptolemy*, for observing the ingress of the sun into the first point of Aries. Both these dials were the work of Fra Egnatio Danti of the Dominicans, to which order the church and convent belonged.¹

The church of Sta. Maria Novella was called by Michael Angelo,

¹ Both of these instruments are described in the sixth part of his book, "Dell'uso et fabrica dell' Astrolabio," 3rd ed., Florence, 1578.

from its beauty and perfection, "La Sposa," *the Bride*. A clock in one of the transepts bears the following inscription :

Sic fluit occulte, sic multos decipit ætas ;
 Sic venit ad finem quidquid in orbe manet,
 Heu ! heu ! præteritum non est revocabile tempus ;
 Heu ! proprius tacito mors venit ipsa pede.

*So flows the age unperceived, so it deceives many ;
 So comes to an end whatever remains in the world.
 Alas ! alas ! the time past is not to be recalled ;
 Alas ! death itself comes nearer with silent step.*

At the south-west angle of the cathedral at Genoa there is the figure of an angel holding a dial.

A facet-headed dial of white marble was noticed a few years ago in the gardens of the Villa Giulia at Palermo. There were ten facets with dials, and a horizontal dial at the top, inscribed : "Girolamo Ganguzza f."

In the north of Italy, and especially in the Alpine valleys, the dials frescoed on the walls were often quaint and picturesque in design. Some of the finest specimens of these are to be found in the Italian Tyrol. On old houses they are combined with the coats of arms of those noble families who were once the owners, and on the churches with the figures of the Virgin and Child, and saints. Two or three specimens north of the Alps are noticed in the collection of mottoes, but there is none finer than the fresco on a church near Brixen, where the Blessed Virgin appears with the Infant Saviour and attendant angels in vision to St. Dominic and St. Francis, whose figures are represented below.

The dial designs on German houses are also sometimes heraldic in character, but more frequently of elaborate scientific construction, showing the signs of the Zodiac, the hours at different localities, etc. There



CHURCH NEAR BRIXEN.

are several dials at Nuremberg, two of which, facing south and east, are at the angle of the Nassauerhaus; and in the courts of the Royal Palace at Munich two, if not three, were noticed some few years ago. In the museum at Nuremberg there is a fine collection of portable dials, for the manufacture of which the city was, in the sixteenth and seventeenth centuries, renowned.

The late Mr. Albert Way, F.S.A., noticed a semicircular vertical dial held in the left hand of a figure in a niche on the south side of the minster at Freyberg-in-Breisgau. The figure is in secular dress, and is said to represent the architect of the church. The south aisle of the building is assigned to the end of the thirteenth or beginning of the fourteenth century. There is another vertical dial, of much later date, painted on the gable of the south transept.

The remains of a mural dial can still be traced on the castle of Heidelberg, facing the court and above the entrance to the Friedrichsbau; and in an



PALACE, SCHWERIN.

old engraving taken before the destruction of the castle in 1764, two dials of the same character are shown on the turret beside the façade of Otto Heinrich. A white marble horizontal dial, called "The Queen of Bohemia's dial," used formerly to be shown, but has now been put away in some part of the building to which strangers are not admitted. It once stood in the gardens, which were laid out by the engineer Solomon de Caux, whose work on gno-

monics is still extant.¹ The marble pedestal of the dial is supported on lions' paws.

A facet-headed dial, mounted on a stone pedestal, stands in the Palace garden at Schwerin.

A very remarkable instrument, called the *Horologium Achaz*, now in the museum of the Philosophical Society at Philadelphia, was described in 1895 by Mr. J. F. Sachse. There are, he says, two metal plates, the smaller measuring $5\frac{3}{4}$ inches in diameter, made of an alloy of silver and copper, which formed the base, with a compass 1 inch in diameter in the centre. Beneath this is a finely-engraved plate slightly concave, and divided into five panels, two of which are engraved with scenes from the second book of Kings; in one the

¹ *La Pratique et Demonstration des Horloges Solaires*, 1624.

prophet Isaiah is pointing to a vertical dial, and in the other healing the king. In the centre is written :

"Notat concha isthac hemiciclea capitis 38 Esaia miracvlvm : nam hanc si acqva labrvm vsqve impleveris vmbra solis 10 imo : 20 gradibvs retrorsvm fertvr signvm ac gradvm solis : quin etiam horam diei vvl-garem qvamevqve vna cvm planetarvm qvas vocant horas denvncians."

[*This semicircular shell explains the miracle of the 38th chapter of Isaiah. For if you fill it to the brim with water, the shadow of the sun is borne backward by ten or twenty degrees. Moreover it indicates any common hour of the day whatever, together with what they call hours of the planets.*]

The larger piece is a basin-shaped plate made of brass or gun-metal, with a flat movable rim 1 inch wide. Upon this are engraved the signs of the Zodiac. On the reverse of this rim, which surrounds the large basin, is engraved as follows :

"Christophorvs Schissler, geometricvs ac astronomicvs artifex, Avgvstae Vindelicorvm, faciebat anno 1578."

"The centre or concave part of the dial is 10 inches in diameter, and geometrically divided into the different planetary hours. The depth of the basin is $1\frac{3}{4}$ inches, and the whole formed the dial." A brass figure about 3 inches high, with the left hand extended to hold the gnomon, is placed on the rim. "The instrument was formerly used for calculating nativities, . . . and when filled with water to the brim, the shadow was advanced or retarded as many degrees as the angle of refraction."

Christopher Schissler was a brassworker and also an astronomical and geometrical "werkmeister" at Augsburg. The four large sun-dials which he made for the Perlachthurm, a tall watch-tower, in 1561, are still to be seen. Some of his smaller instruments may be found in collections such as that at the British Museum. His greatest work, a quadrant, dated 1569, was placed in the museum at Dresden. Schissler seems to have discovered the laws of refraction some fifty years before they were made known generally by the mathematicians.

The Horologium Achaz belonged in the seventeenth century to Anton Zimmerman, a distinguished astronomer, and magister of the Rosicrucians, who was on the point of emigrating to America with the members of his society when he died, between the years 1691-93. His effects had been placed on shipboard, and were taken to America by Johannes Kelpius, who was the next elected magister. The Rosi-

crucians settled on the shores of the Wissahickon, near Philadelphia, and the observatory or "lantern" which they set up for the study of the stars was the first regular observatory established in America. The last surviving member of the Rosicrucians, Christopher Witt, who had received the scientific instruments from Kelpius, gave some of them to the Philosophical Society of Philadelphia, of which Benjamin Franklin was president. Amongst them, no doubt, was this "Horologium Achaz." Mr. Sachse says he has searched Europe in vain to find a duplicate.¹

There is a fine collection of Scandinavian dials in the Northern Museum at Stockholm. A letter of inquiry about this was most courteously replied to by Dr. A. Hazelius, the curator, as follows:

"Nordiska Museet has a great number of sun-dials from the latter part of the sixteenth century to far on in the nineteenth century. Their size, as well as shape and material, vary. We have sun-dials in pocket size, and dials that have been intended for walls and pillars; one has even been affixed to a mile-post. The form is usually quadratic, but cubes are not unusual. The material of which they are made is, as above mentioned, very varying. We have dials of bone, stone, clay, etc., and even metal and wood. The ornamentation consists usually of escutcheons with ideographs, initials, and sometimes of motives of plants in different styles and manner. Mottoes do not often occur." Dr. Hazelius also mentions the dial with a Runic inscription, dated 1754, which Prof. Stephens described in 1877.² It is of marble, nearly a foot square, and was found in 1876 at Norrköping. "A line of modern Runic runs all round the four edges, and gives a rule how to arrange the gnomon in leap-year."

That the sun-dial was once as much at home in the churchyards of Sweden as of those of Great Britain we may see from Bishop Tegnier's lines:

"Even the dial, that stood on a hillock among the departed
(There full a hundred years had it stood) was embellished with blossoms,
Like to the patriarch hoary, the sage of his kith and the hamlet,
Who on his birthday is crowned by children and children's children,
So stood the ancient prophet, and mute with his pencil of iron
Marked on the tablet of stone, and measured the time and its changes,
While all around at his feet an eternity slumbered in quiet."

Children of the Lord's Supper (Longfellow's trans.).

The wish which the philanthropist John Howard expressed on his

¹ "Pro. Am. Phil. Soc.," vol. xxxvi., 1895. "Horologium Achaz."

² "Monats blad," Nos. 67 and 68, also "Old Northern Scandinavian Monuments."

deathbed, to have a sun-dial placed on his grave, was not fulfilled after his interment. He was buried at the spot he had selected, near the village of Dophinovka, now called Stepanovka, six versts north of Kherson, and a monument, consisting of a brick pyramid inscribed with his name, was placed on the grave by his friends. An obelisk, 30 feet high, was, however, erected in memory of Howard by the Emperor Alexander I., near the Church of the Assumption at Kherson. On one side there is a sun-dial, showing the hours from ten to two, and on the other a portrait medallion of Howard. There is also an inscription in Russian and Latin :

Howard
died on the 20th January
in the year 1790
in the 65th year of his age
Vixit propter alios
Alios salvos fecit.

Howard's last wishes were thus gracefully remembered, though the sun-dial was not upon his grave.

This, and the dial brought from Kelbouroun Spit, noticed in the collection of mottoes, are the only specimens which we have from Russia.

The great equatorial dial at Delhi, constructed in 1724 by Jey Singh, Rajah of Jeypore, and called by him the prince of sun-dials, one of the most marvellous specimens in the world, almost defies description. We are told that the dimensions of the gnomon are as follows :

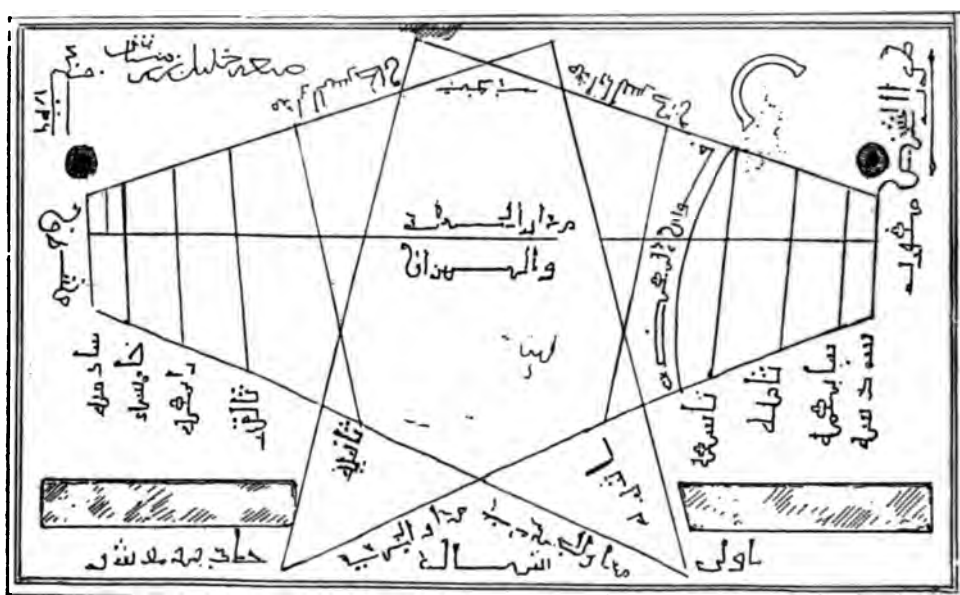
	ft.	in.
Length of hypotenuse	118	5
„ base	104	0
„ perpendicular	56	7

The gnomon is of solid masonry edged with marble, and the shadow is thrown upon a graduated circle, also of marble.

“At a short distance, nearly in front of the great dial, is another building in somewhat better preservation ; it is also a sun-dial, or rather several dials combined in one building. In the centre is a staircase leading to the top, and its side walls form gnomons to concentric semicircles, having a certain inclination to the horizon, and they represent meridians removed by a certain angle from the meridian of the observatory ; the outer walls form gnomons to graduated quadrants, one to the east and one to the west ; a wall connects the four gnomons, and

on its north face is described a large graduated semicircle for taking altitudes of the celestial bodies.”¹

The Rajah Jey Singh, who was an accomplished engineer, mathematician, and astronomer, gave it as his reason for constructing these great buildings, that he had found the brass astronomical instruments untrustworthy from their small size, “the want of division into minutes, the shaking of their axles, and the displacement of the centre of their circles and the shifting of their planes.” He made the like buildings at other places, as Benares, Muttra, Ujani, and Jeypore, the city over which he ruled, to confirm the observations made at Delhi.



ARAB DIAL. VICTORIA AND ALBERT MUSEUM.

It is said that the Emperor Mahmoud Shah gave the Rajah the title of “Sawai,” = “one and a quarter,” to show that he was a quarter more excellent than any of his contemporaries. He arranged a series of astronomical tables, which are still used by the natives of India; and having heard from a Portuguese missionary of the European discoveries, he dispatched an embassy to King John of Portugal, who in return sent him a *savant*, Xavier da Silva. Jey Singh thus became acquainted with the tables of De La Hire, published in 1702, and found the more advanced European knowledge of great service to his own calculations. A collection of models of the Jeypore dials, which are identical with those at Delhi, may be seen in the Victoria and Albert Museum, South Kensington.

¹ “Handbook to Bengal.”

We are told that sun-dials are frequently to be found on the mosques in India, and also in Egypt. Some examples at Constantinople have been already mentioned. In the Victoria and Albert Museum there is an Arab dial of marble, made by Khalil the son of Ramtash, A.H. 720 (A.D. 1326), and also some portable compass dials from Persia. A brief account of two dials in Palestine we owe to the kindness of Colonel Conder, R.E. :

"The sun-dial on the mosque at Hebron is marked in black on the wall of the inner court; as far as I remember it appeared to be modern. In the Jerusalem mosque, south of the Dome of the Rock, was a dial which appears to have been as old as the seventeenth century. It was removed before 1881. It stood on a block of masonry, and was horizontal, not on a wall as at Hebron. It was (wrongly) said to mark the site of the altar of the Temple."

One would naturally expect that the sun-dial would have travelled to the New World with the Spaniards, to Africa with the Dutch, and to Australasia with the English, and that in remote parts of the country where, when clocks and watches get out of order, and there are no means of mending them, the sun-dial would be found useful. Whether this is the case or not, we are not able to say. There is a large mural dial over an archway in the castle at Capetown, and an horizontal one in the Botanical Gardens, both of which date from the Dutch occupation; and in the collection of mottoes one recently set up in California will be noticed. In Rumbold's "Great Silver River" a sketch is given of a reclining sun-dial on a pillar of red sandstone, which stood solitary in a court of the ruined Jesuit College of La Cruz, at Misiones in Argentina. It was dated 1730, and bore a representation of the Sacred Heart and the monogram of the Blessed Virgin. The college was founded in 1629. The dial has probably by this time shared the fate of the buildings which once surrounded it.

So, having tracked the sun-dial from its first beginning in the farthest East, we take leave of it in the farthest West.

PORTABLE SUN-DIALS

By LEWIS EVANS, F.S.A., F.R.A.S.

1

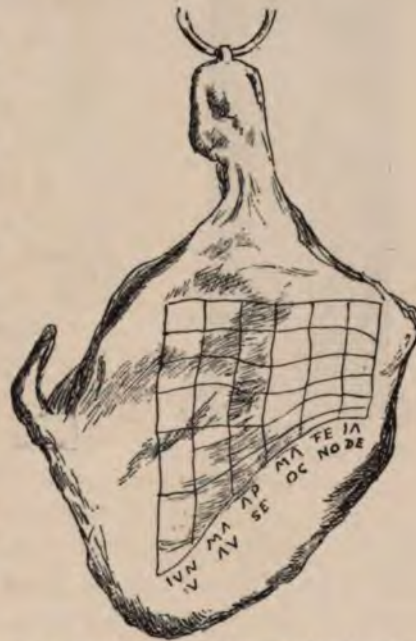


PORTABLE SUN-DIALS.

PORTABLE SUN-DIALS

ALTHOUGH everyone knows that sundials are often to be seen on the walls of churches or on stone pedestals in old gardens, and though we all understand that such dials were the immediate ancestors of our public clocks, still there are comparatively few who know any members of the younger branch of the family, namely, the pocket dials, the rude forefathers of the modern watch. And it will probably be a surprise to most people to learn how many have been the varieties and how protean the forms of the portable dials that were used in various ages and countries, and what a vast amount of time and thought was expended on their design and construction.

There is no doubt that fixed dials preceded portable ones by many ages, and that the length of his own shadow long continued to be the only visible timekeeper that a man carried about with him, and one that was in recognized use in classical times (see p. 6), to which period the earliest known specimen of a portable dial must also be ascribed. This dial, which is made in the shape of a ham, was found in excavations at Herculaneum in 1754, and is now in the Naples museum, where Miss Lloyd made the drawing from which the illustration is taken.

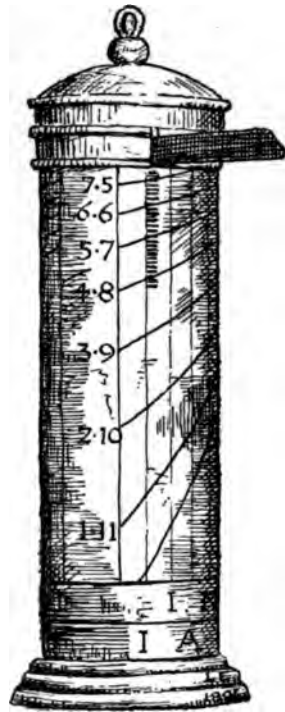


DIAL FROM HERCULANEUM (SCALE $\frac{2}{3}$).

Its material is bronze, and on its flat side are vertical lines enclosing six spaces, below which are engraved the shortened names of the months, with the winter months under the shortest space and the

summer under the longest; while across the upright lines are curved ones dividing the spaces each into six sections to represent six hours from sunrise to noon, and from noon to sunset, in accordance with the plan adopted in other Roman dials, which gave to the day twelve long hours in summer and twelve short ones in winter. The tail-piece on the left must originally have been much longer so as to come round in front of the hour lines in such a way that its shadow would fall on the proper month space and show the hour when the dial was suspended

by the ring and turned towards the sun. The age of this dial is fixed within narrow limits by the fact that it must have been made after B.C. 28, when the month Sextilis was changed to Augustus in honour of the emperor, and before A.D. 79 when the great eruption of Vesuvius buried Herculaneum, while it seems probable that it was made after A.D. 63 when the town was greatly injured by an earthquake.



PILLAR DIAL, 17TH CENTURY
(SCALE, $\frac{1}{1}$).

An instrument of this kind could only be used in one latitude, and that the later Romans knew and felt the disadvantage of this fact is shown by another dial on the same principle found a few years ago at Aquileia and described by Dr. Kenner.¹ This is a circular disc of bronze $1\frac{1}{4}$ inch diameter by $\frac{5}{16}$ inch thick, with dials on each side of it, one being lettered RO for Rome and the other RA for Ravenna; the lines dividing off the month spaces in this instrument are not parallel but radiate from an apex opposite which the gnomon once projected. The lettering for the months is practically the same as in the "ham" dial, and the division of

the day is the same, but it was probably not made until about the fifth century. The hour lines were originally inlaid with silver, but much of this is now wanting, as well as the gnomon and the attachment for suspending the dial.

This class of dial, in which the hour lines are drawn on a vertical surface and the gnomon stands out horizontally above them, has continued in use ever since it was first invented, but the form of it that was most common, because the easiest to make, was a cylinder,

¹ "Römische Sonnenuhren aus Aquileia," Vienna, 1880.

the "Kalendar," or "Chilindre" on which treatises are extant written in this country as early as the thirteenth century.¹

These dials, also called "column," "pillar," or "Shepherds' dials," were small cylinders of wood or ivory, having at the top a kind of stopper with a hinged gnomon in it. When in use this stopper had to be taken out and replaced with the gnomon turned out and projecting over the proper month space, or line; then, when the dial was allowed to hang vertically with the pointer towards the sun, a shadow fell on the curved hour lines and gave the time. The accompanying illustrations show two dials of this kind, one of the type used in the sixteenth and seventeenth centuries in all parts of Europe, and the other a dial as now used in the Pyrenees.

A dial of this type adapted to a walking-stick is to be seen in the Ashmolean Museum, Oxford, and another made by Edmund Culpepper (1666 to 1706), which forms also a telescope, belongs to Albert Hartshorne, Esq., F.S.A. The same type, but in an exaggerated form, is used by the Indian pilgrims, who carry staves 4 feet 6 inches to 5 feet 6 inches long with dials on them when making a pilgrimage to Benares. An account of one of these, translated from the "Deutsche Uhrmacher Zeitung," was given in the "Horo-logical Journal" for January, 1899, which seems to agree with a specimen now in the British Museum and with one in my collection, except that the writer ascribes to it the fabulous age of "about two thousand years." "Ashadah" is given as the name of these staves after the month of that name—from the middle of June to the middle of July—in which pilgrimages to Benares usually commenced, and they seem to have been made in the country about Bhutan and Eastern Nepal. The staves are octagonal with divisions and numerals carved on each side to show the number of half hours from sunrise or sunset; four of the sides having each to serve for two months. The gnomon, a small stick or wire, is carried in a hollow down the centre of the staff, and when in use is placed in the transverse hole above the hour lines for the month.

Other modifications of this class of dial are given in the illustrations,

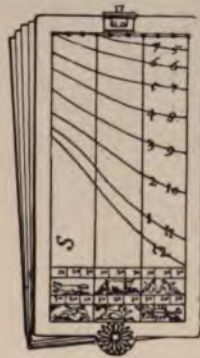


MODERN PYRENEAN
DIAL (SCALE, $\frac{2}{3}$).

¹ "Chaucer Society Publications," second series, No. 2, Part I., and No. 9, Part II.

one of which, showing the back of a German nocturnal dial of brass, dated about 1650, closely imitates the Herculaneum "ham," except that the gnomon is hinged to a sliding piece of metal which allows it to stand over any desired month, whereas in the Roman dial this adjustment was got by bending the wire gnomon. The seventeenth century dial, engraved on the gilt brass tablet-covers, is also German, and has a pin to be fixed in any of the holes above the months to serve as its "style." The side illustrated is made for use in the summer, the winter dial being engraved on the other cover.

The earliest form of the ring dial was only another modification of the same type, a hole being pierced in the side of a very wide ring and



GERMAN TABLETS
(SCALE, $\frac{1}{2}$).



GERMAN NOCTURNAL DIAL
(BACK) (SCALE, $\frac{1}{2}$).

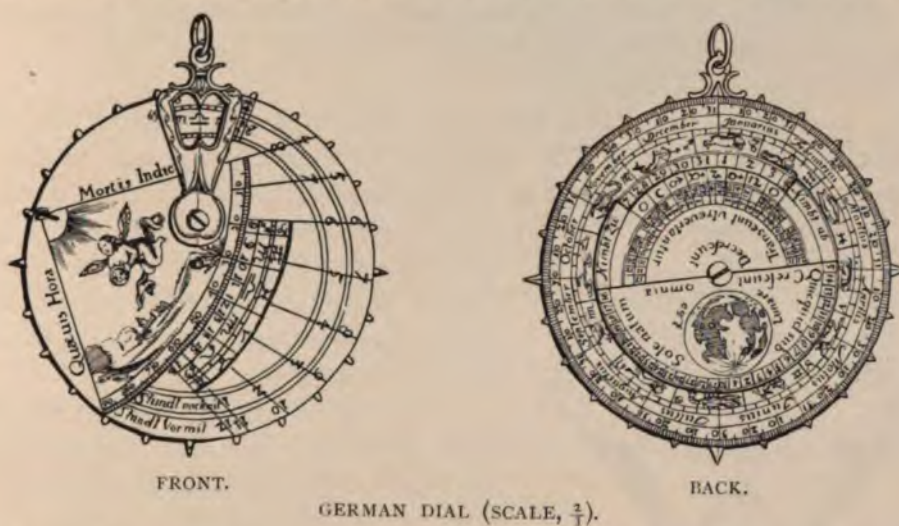


ENGLISH RING DIAL
(SCALE, $\frac{1}{2}$).

the hour lines marked by sloping or curved lines drawn across the breadth of the ring inside so as to suit the various seasons. When in use these dials were turned towards the sun so that a ray of light might shine through the small hole and show the time on the hour lines inside the ring. From this developed the ordinary form of ring dial, which was in such general use in this country during the seventeenth and eighteenth centuries, in which the hole was drilled in a separate band of metal that moved in a groove round the ring so that it might be adjusted to its proper place for the time of the year, as shown by the initials of the months engraved on the outside of the ring; by this means the hour lines could be drawn much straighter and with greater accuracy.

Another improvement was the introduction of a second hole and a second set of markings, one half of the ring being used in the summer

and the other in the winter. The ring-dial, of which an illustration is given, is one of this kind, made about 1730; it was found at Kemerton Court, Gloucestershire, and belongs to Mrs. Dent of Sudeley Castle. In the British Museum are two of these dials made as ordinary finger rings, one is English and of brass with three fixed holes in it, made about 1400, the other a beautiful gold dial from Germany, probably of the sixteenth century; these small ring dials are extremely rare, but those measuring $1\frac{1}{2}$ to $2\frac{1}{2}$ inches in diameter are comparatively common, and can be seen in most of the museums in this country. Ring-dials were more used in England than elsewhere, their manufacture having



been continued, at any rate in Sheffield, until about a hundred years ago.

The dial Shakespeare had in his mind in "As You Like It," act ii., scene 7 :

"And then he drew a dial from his poke,
And, looking on it with lack-lustre eye,
Says very wisely, 'It is ten o'clock,'"

may have been a ring dial, a shepherd's dial, or even a compass dial, all of which were in use in his time, and all probably equally common; Out of the ring-dial arose various forms of flat dials, as, for instance, the very pretty disc-shaped hanging dial of gilt brass and silver, made about the year 1700 in Germany, which has a dial with the motto, "*Quævis hora mortis indicina*" on one side of it, and a perpetual calendar with lunar tables (not quite perfect) on the other, besides the inscriptions, "*Quicquid sub Sole natum Lunare est*," "*Crescunt omnia Decrescunt*," "*Transeunt ut revertantur*."

The little leaden dial, which is of the same type, is interesting, both as being a reproduction on a flat surface of the simplest form of ring-dial, and also because it is the only dial I know giving the names of the months as devised by Fabre D'Eglantine and instituted under Robespierre for the French republic, September 22nd, 1793. It is about the size of a crown piece, and is unfortunately not very well preserved, in fact it was sold to a former owner as a Roman dial. The summer side only is shown, with the initials of the spring and summer months, Germinal, Floreal, Prairial, Messidor, Thermidor, Fructidor on it



DISC DIAL, FRENCH REPUBLIC (SCALE, $\frac{2}{3}$).

Another very beautiful development is the chalice or goblet dial. The specimen here illustrated was made in 1550 by Bartholomeus, abbot of Aldersbach, in Bavaria, and is now in the British Museum. The hour is shown by the shadow of a wire gnomon standing up vertically in the centre of the cup; this is not shown, as the gnomon now in the dial is not the original one.



GERMAN CHALICE DIAL (SCALE, $\frac{1}{2}$).

Having traced the descent of one type of Roman portable dial through various shapes and in various countries, it will be interesting to follow up the only other kind of which examples have come down to us from Roman times. The first specimen of this second and more advanced type was found in Italy about one hundred and sixty years ago, and was described by Baldini in 1741, but neither he nor others who have since written about it could correctly describe its use or construction, owing to the absence of part of the gnomon.¹ Luckily another specimen, in almost perfect preservation, has recently come into my possession, and though the place in which it was found is

¹ "Saggi di Dissertazioni etct nell' Accademia Etrusca di Cortona," vol. iii., p. 185. G. Baldini. "Abhandlung von den Sonnenuhren der Alten." G. H. Martini, 1777. "Disquisitiones, etct." F. Woepke, 1842.

uncertain, it is undoubtedly of Roman origin, and was probably made about A.D. 300.

The most noticeable points about this instrument are, first, that it is an universal dial, that is to say, it can be used anywhere (outside the Arctic circles), and secondly, that it gives the hours according to our present method of reckoning, and not the "unequal" hours that were in common use when it was made; in fact it is a scientific instrument intended to give the equinoctial hours that were then used by few except astronomers and men of science.

This dial consists of a recessed disc of bronze $2\frac{3}{8}$ inches diameter, and $\frac{1}{8}$ of an inch thick, with its rim divided into four quadrants, one of which is farther subdivided into three sections of 30° , the centre one of them being marked off at each 10° , so that the divisions corresponding to latitudes, 30° , 40° , 50° , and 60° are shown.

Sunk in the hollow of this larger disc is a smaller one, about 2 inches diameter, which has its surface bisected by a line, "the equinoctial line," with divisions on each side of it representing the sun's declination north or south on entering each sign of the zodiac, the outer ones being lettered VIII. K. IVL. and VIII. K. IAN., that is, the eighth day before the first of July and January, *i.e.*, June 24th and December 25th; on one side of the equinoctial line another is drawn at right angles to it from the centre to the circumference passing through a raised knob.



ROMAN DIAL (SCALE, $\frac{2}{3}$).
CIRCA A.D. 300.

The square projecting gnomon and the triangular piece with the hour lines drawn on its curved side, stand out at right angles to the discs, and are both carried on a stout pin passing through the dial; as in most other Roman dials the hour lines are not numbered in any way.

To use this instrument it was necessary first to set the line with the knob on it opposite the latitude of the place, as shown on the outer disc, and then to adjust the gnomon to the season of the year. In the drawing it is shown set for about latitude 52° , and for one month from the winter solstice, that is, about the 25th of January or November.

When the dial was thus set it was allowed to hang from a string fastened to the small loop at its top, and turned until the shadow of the gnomon fell exactly along the hour circle, which it would completely cover at noon, and the number of hour spaces not in shadow would

show the number of hours before or after noon up to six : for the early morning and late evening hours a modification of the setting was needed. When the dial is used in the forenoon set in this way, and the shadow falls exactly along the hour circle, the plane of the discs lies exactly north and south, so that the instrument can be used as a compass. To serve this purpose in the afternoon, the position of the gnomon on the face of the discs must be reversed.

On the back of the dial is a list of thirty places, with their latitudes.

It is easy to recognize the same principles in this third century dial, and in the German dial, dated 1713, from the British Museum Collection, which is shown in the next illustration. In this the discs



GERMAN DIAL, 1713
(SCALE, $\frac{1}{2}$).

are clearly reproduced with little change ; the hour lines, which are now drawn on a true circle, are extended so as to include the morning and evening hours ; but as the adjustment for season is effected by shifting the gnomon only, the hour circle always remains in the equinoctial position, that is to say, in a plane parallel to the equator. In use the shadow of the extreme point of the gnomon has always to fall on the central line of the hour circle, and the position of the gnomon must be varied according to the season by sliding it up or down the flat plate on which it is fixed, in accordance with the calendar

engraved on it. To make the dial serve for the morning and afternoon, both the hour circle and the carrier for the gnomon are on pivots, and can be turned over to the other side of the dial, or folded level with the disc to carry in the pocket. This morning and afternoon adjustment is got over in the pretty little dial made by Johan Martin, of Augsburg, about 1720, of silver and gilt brass (Plate vii, No. 8), which is fitted with two hour circles or rather segments, and, instead of being hung from a ring, is levelled by means of a small plummet, the arched double gnomon being regulated exactly as in the last dial, and the hour circles set for latitude by the little quadrant between them, so that they also will adjust themselves to the plane of the equator, while the graduated quadrant will point north, and the engraved star at its base give all the points of the compass. Below the square base plate is a revolving perpetual calendar, and a list of about forty towns with their latitudes. These two forms, though showing very clearly the con-

nection between Roman and recent dials, are much less often met with than the "universal ring dial," which was a kind of armillary sphere constructed on similar principles to these dials, and was in general use over Europe from the beginning of the sixteenth century. The one shown in the illustration was made by Elias Allen, of London, about 1620. In this dial a spot of sunlight falling on the central line of the hour circle, shows the time, the gnomon being a small hole in a sliding piece of brass, which has to be set according to the season. When in

use the outer circle will represent a meridian circle; the hour ring, the equator; and the slotted plate in which the gnomon slides, the pole.

These universal ring dials were sometimes furnished with sights, and mounted for use as levels or surveying instruments, as in the dial made by J. Heath about 1740 (Plate vii, No. 4), which is 15 inches high, and has a large compass in the base, with two spirit levels let into it, and three levelling screws in the feet. The instrument shown on the same plate (No. 2) is designed on the same lines as the last two dials, the ornamented plate with the toothed wheel round

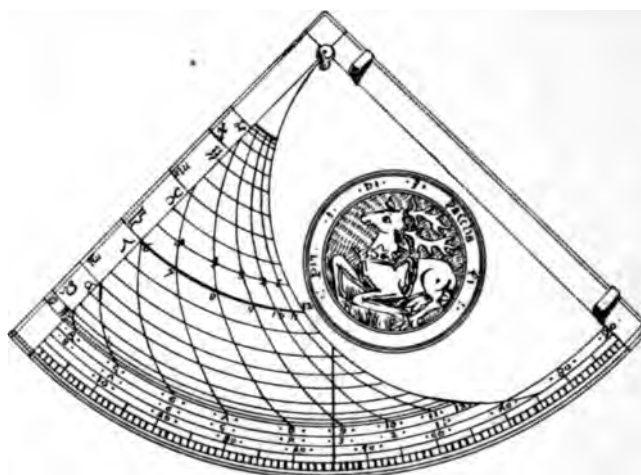
its edge has to be sloped more or less according to the latitude, and when in use lies parallel to the equatorial plane, while the small arm, with the perforated sights on it, has to be shifted to suit the sun's declination by means of the calendar at its northern end, the hour being shown by the pointer just below this, and the minute on the clock face opposite by means of the little hand which is attached to, and turns with, a pinion geared into the toothed edge of the main dial plate.

There are other forms of dial in which the principal circles of the sphere are projected on a plane, instead of being reproduced in metal rings or bands, as was attempted in the dials last described. The



ENGLISH UNIVERSAL RING DIAL, CIRCA 1620
(SCALE, $\frac{1}{3}$).

English quadrant, shown in the illustration, is an early specimen of this class of dial. It is made of brass, and has on it the badge of King Richard II., and the date 1399, the last year of his reign, and is now in the British Museum. In this and other quadrant dials the time is shown by a bead, which can be moved up and down a plumb-line hanging from the centre of the quadrant, the bead being adjusted to the day of the month, in the calendar on the edge of the quadrant, and placed at the point where the day-line crosses the twelve o'clock line; then the sun's altitude is taken by means of the pierced sights on the quadrant, and the hour is shown by the position of the bead on the hour-lines. There were many varieties of these quadrants, some of



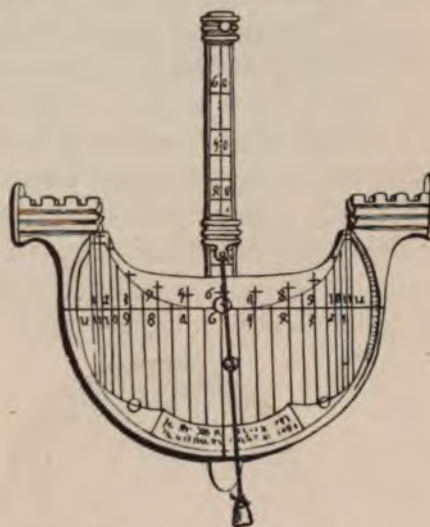
QUADRANT MADE FOR RICHARD II. (SCALE, $\frac{2}{3}$).

which were in use up to the end of the last century even in this country.

The dial, in the shape of an ancient ship with turrets at each end, which was probably made in Germany at the end of the fifteenth century, has also a bead on a plumb-line to show the time, but it is an universal dial. The slider on the mast, to which the plumb-line is fastened, has to be raised or lowered according to the latitude, and the rake of the mast set, according to the time of the year, by means of the calendar near the bottom of the ship, and the bead duly placed in position on the thread, after which, if the sun's height is taken by the sights in the two turrets, the bead will show the time as in the quadrant dials. The same dial was sometimes drawn on a plain surface, the thread being fastened to the end of a jointed arm which could be adjusted for latitude and season by its position on a series of graduated

lines arranged in the form of a triangle, and corresponding to the space covered by the mast of the ship at its greatest rake fore and aft, and to the traverse of the slider up and down the mast. There were also varieties of these dials, with modifications of the arrangement of the thread, sights, and hour lines, differing but slightly from these two, and all designed to preserve the essential feature of being complete on a flat surface without any projecting parts.

With all the before mentioned dials, in which the sun's altitude above the horizon was the only basis of calculation, it was of course necessary to know whether the hour was before or after noon, in order to learn the time, and this must always have been a matter of difficulty towards the middle of the day. However, the introduction of the mariner's compass into Europe in the thirteenth century provided a means of overcoming this difficulty, a fact which was promptly recognized by the dial makers, and we find compass dials to have been in use in this



GERMAN SHIP DIAL (SCALE, $\frac{2}{3}$).



BRASS BOX DIAL (SCALE, $\frac{1}{2}$).



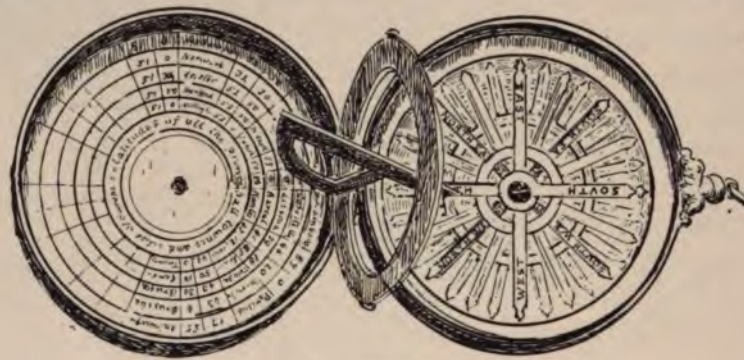
FINGER RING DIAL. FROM AN OLD PRINT.

country from the end of that century, and similar dials have been made till quite recent times with little variation of form; they were usually small round brass boxes, containing a compass with a horizontal sun-dial above it, the gnomon being hinged so as to allow the lid to close: the illustration shows a seventeenth century dial of this form.

Very minute dials of this type were sometimes made in finger-rings,

the bezels of which opened and disclosed a small compass and a dial with a string gnomon; there are three or four of these dials in the collection of rings at the British Museum, but the illustration is taken from "Symbola Heroica" and includes a portrait of the sun.

The interesting circular folding dial with a verse round its outer edge (No. 68 in the list of mottoes), of which an illustration is given, is another English variety of the compass-dial, made to suit all latitudes; it is now in the Museum of Antiquities at Edinburgh, and has on it, in addition to the dial and compass, a list of the latitudes "of all the principall townes and cities of Europe," and a calendar inscribed, "This table beginneth at 1572 and so on for ever." It was made in 1575 by Humphrey Cole, who is mentioned in "Archæologia," vol. xl., p. 348 and 354, as having been the leading English maker of astrolabes



POCKET DIAL.

and other instruments in the reigns of Edward VI. and Elizabeth; there are specimens of his work in the British Museum and Greenwich Hospital.

The carefully made dial, Plate vii, No. 1, with a coat-of-arms and an earl's coronet engraved on it, made by "Thos. Wright, instrument maker to his majesty" (1730-50), is rather similar in construction to the German dial, No. 2, but differs from it, inasmuch as it needs a compass for its adjustment. It is a very fine piece of English workmanship and must originally have been a very costly instrument.

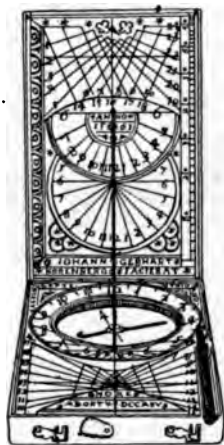
The pretty silver compass dial, No. 6, made by "Lasnier aux Deux Globes à Paris" at the beginning of the last century, is the type that modern dial makers adopted as the best, and the one with which our soldiers and colonists generally provided themselves before leaving home.

In Germany the number and variety of the compass-dials that were made was very great; one is shown in the ivory dial by Gebhardt, of

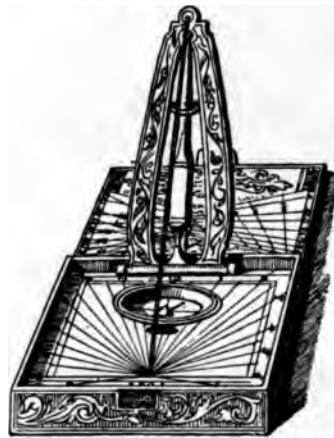
Nuremberg, dated 1561, in which a thread forms the gnomon. It is a type that was to some extent used in all countries, but which was an especial favourite in Germany, and the ivory dial by Hans Troschel about 1640, Plate vii, No. 3, with the motto, "Hora fugit mors venit," on it, is one of a similar class; when closed it takes the form of a book $3\frac{1}{4}$ inches by $2\frac{3}{8}$ inches in measurement. No. 5 on the same plate shows another ivory dial by the same maker.

The metal folding dial, $2\frac{1}{2}$ inches by 2 inches, made by V. S. (probably Ulric Schneip, of Munich) is another form of the same dial that was popular at the end of the sixteenth century.

Plate vii, No. 7, shows a cube with five dials on it which is sup-



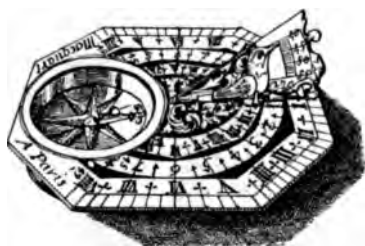
NUREMBERG DIAL AND COMPASS
(SCALE, $\frac{1}{2}$).



GERMAN METAL FOLDING DIAL
(SCALE, $\frac{2}{3}$).

ported by a hinged leg standing on an oblong base with a compass in it. This instrument illustrates one of the commonest forms of a type of dial that can be set in the true position without the use of a compass, and which derives this property from the fact that if a series of dials for one and the same latitude are drawn on several sides of a solid body, the dials will be standing in their true position when they all show the same hour. This individual German dial can be set to suit various latitudes by means of a plumb-line and graduated quadrant on one of its sides, but most dials of the type are only suited to one latitude and have no compass attached to them. Besides the varieties of German dials which I have described, there were a great many others in use which, together with the numerous books on the subject published in Germany, show that the art of dialling was more closely followed there than in any other part of Europe. The French dial makers, however, were not far behind in the variety of their patterns,

whilst their workmanship, at any rate in the eighteenth century, was only inferior to that of the best English makers. The French ivory dials made by Bloud, of Dieppe, and others towards the end of the seventeenth century, were followed by metal instruments like the enamelled silver dial made by Macquart, of Paris, about one hundred and sixty years ago, of which there is an illustration. Dials of this class were generally made with shagreen or fish skin cases to protect them when carried about, the "bird" style being folded down flat with



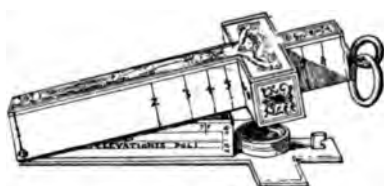
FRENCH SILVER DIAL (SCALE, $\frac{2}{3}$).



ITALIAN DISC DIAL (SCALE, $\frac{1}{2}$).

the dial-plate when in the case, and they furnish some of the prettiest examples of portable dials that are to be met with.

Two forms of dial are peculiar to Italy, the disc dials of gilt brass with the Italian hours (reckoned from sunset) marked on them, which were made in Rome towards the end of the sixteenth century. The dial shown is dated 1585, it has a sun-dial on each side of the disc, and the compass is pivoted so as to turn over and serve for both dials; in some specimens there are several dials for different latitudes drawn on each side of the disc. The gnomons are little upright pins or pegs, and the arrangement of the hour lines differs in a notable way from that on the dials previously described. This type of dial continued to be made of both brass and wood, usually in flat round boxes, until the beginning of this century.



CRUCIFIX DIAL (SCALE, $\frac{1}{4}$).

The other form of dial, which is almost confined to Italy, and which is but rarely to be met with even there, is the cross-shaped dial containing a reliquary. In this dial the cross is sloped in accordance with the latitude by means of graduations on the lower part of the dial; it is then set north and south by aid of the small compass, and the shadow

of the limbs of the cross will show the hour. The dial of this type shown in the illustration is a German one by M. P. (Marcus Purman), 1596, it is made of brass and gilt.

None of the other European countries seems to have been specially prolific in portable dials, though no doubt they were made in all of them. America, Africa, and Australia have produced few or none of these solar time-keepers, but in Asia, and especially in China and Japan they are even now much used. A Chinese dial very similar to the German folding dials of ivory already mentioned was bought by me as an ordinary article of commerce, in a Chinese shop at San Francisco, about twenty years ago. The Japanese are rather fond of circular dials, and the



JAPANESE SILVER DIAL (SCALE, $\frac{1}{2}$).

last illustrations show the interior and exterior of one of their silver dials with very characteristic ornamentation upon it.

The portable dials that have been described in this chapter are all, except in the instances specially mentioned, in my own collection, and there remain unmentioned very many more varieties which might have been described had space permitted. It must, therefore, by no means be inferred that any form of dial which is unrecorded here must in consequence be an uncommon variety or one of special interest; but I should advise anyone who wishes to know more about this subject to go and study the very fine collection of sun-dials and other instruments at the British Museum.

SUN-DIAL MOTTOES

D D

SUN-DIAL MOTTOES

- I. A CLOCK THE TIME MAY WRONGLY TELL,
I, NEVER, IF THE SUN SHINES WELL.
Recorded in "Fen and Wold" as seen on a dial in the Fens.
2. A DAY MAY RUIN THEE. IMPROVE THIS HOUR. A.D. MD CC XXX II.
On the church porch, Seamer, Yorkshire.
3. A DIEU SEUL HONNEUR ET GLOIRE. *To God alone honour and glory.*
On the Café de la Gare, La Roche-de-Rame (Hautes Alpes).
4. A LA BONNE HEURE. *In God's good time.* W.A.B.B. FAURE FECIT. 1724.
At Villeneuve (Hautes Alpes).
5. A LUMINE MOTUS. *Moved by the light.*
Copied in 1870 from a dial at Sestri Ponente, near Genoa.
6. A ME TOCCA POI LA SORTE *That to which fate urges me*
DI SEGUIRTI FINO A MORTE. *Is unto death to follow thee.*
At Graglia, in Piedmont.
7. A SOLIS ORTU USQUE AD OCCASUM. *From the rising up of the sun*
unto the going down of the same.
On the cemetery wall at St. Gervais, Savoy; copied 1874. The motto (Psalm cxiii. 3), in a slightly different form, was once on the upper part of the Queen's Cross near Northampton, where there were four dials, facing the four points of the compass. On the east side were the words AB ORTV SOLIS, on the west VSQVE AD OCCASVM, on the south LAVDATVR DOMINVS, and on the north AMEN . MDCCXIII. The cross was erected by Edward I. in memory of his wife, Eleanor of Castile, and in 1713 it was repaired by order of the Justices of Northampton, and the dials and mottoes added; but in 1762 the latter were omitted when the faces of the dials were repainted, and the cross again repaired. The dials have since been removed.
8. A SOLIS ORTU USQUE AD OCCASUM. LAUDABILE NOMEN DOMINI.
The Lord's Name is praised from the rising up of the sun unto the going down of the same (Psalm cxiii. 3).

On an ivory compass and dial in the Musée Cluny, Paris, made by Hans Troschel, Nuremberg, 1627, with No. 207. Also on the church at La Cour, near Durtal; at St. Trinité, Laval; the Place d'Armes, Briançon, with Nos. 48, 365, 1213, 1591; the Mairie at Ville Vieille, Queyras, with date 1852; on the Presbytère at Prelles (Hautes Alpes), surmounted by I . T . H . S; and at other places in the south of France. The same text is engraved on a brass quadrant made by Poppel, now in Mr. Lewis Evans' collection, *usque* being contracted. Mr. Evans once saw a honestone dial exhibited for sale in London, on which the latter part of the inscription had been altered to "Laudabile Dominum," apparently for the purpose of getting the whole verse on to the space allowed. The words, "Nulla meis sine te quaeratur gloria rebus" *Let me seek honour for myself only to honour Thee*, were also on the dial stone. It was made in 1750 by "Conrad Schmeid, canonicus, Collegii, Wetterhausen." In Athanasius Kircher's "Ars Magna Lucis et Umbrae" (1646), there is a large folding plate of twenty-four dials arranged in the form of a tree, and four dials in the corners. From these radiate thirty-four versions of this verse (Psalm cxiii. 3) in as many different languages. On a scroll across the tree is *Sicut oliva fructifera in domo Dei* (see Psalm clii. 2). The whole plate is intended to be mounted on a board, and to have small gnomons (of which the size is given) affixed to the dials, which would then show the hour of the day at the different places named.

A Solis ortu usque ad occasum, laudate Domine, Domine alleluia, was inscribed a few years ago beneath the clock, which stands beside the north aisle of the choir in York Minster. This clock used to be outside the building, above the entrance to the south transept, but was taken inside when that part of the cathedral was restored.

9. A SOLIS ORTV VSQVE AD OCCASVM. LAUDABILE NOMEN DOMINI.

Coetus Apostolicus coelestia sidera bis sex,
Zodiacusque fides, sol tibi Jesus erit;
Temporis ut minime momentum crescit in horam
Et brevis in longam crescitur hora diem,
Multiplicata dies in mensem, mensis in annum,
Sic tuus in Jesum tempore crescat amor.

The band of the Apostles shall be thy twelve heavenly stars, Faith thy zodiac, and Jesus thy sun; as the smallest moment of time grows into an hour, the short hour into the long day, the recurring days into the month, the month into the year, so with the flight of time may thy love for Jesus increase.

On a honestone or marble dial, sold in London, 1896. The chronogram is 1771.

The above text, with the words rather differently placed, is also on a portable dial in Mr. Evans' collection. It is signed Joseph Bayer. Soc. Jesu.

10. A SPAN IS ALL THAT WE CAN BOAST,
AN INCH OR SO OF TIME :
MAN IS BUT VANITY AND DUST
IN ALL HIS FLOWER AND PRIME.

At East Lodge Farm, Carthorpe, Yorkshire, erected by G. J. Serjeantson, Esq. His initials and the date 1862 also appear.

11. A STITCH IN TIME SAVES NINE.

On the farm buildings at Camphill, Yorkshire, with No. 1426.

12. A TOUTE HEURE AUX MÉCHANTS DIEU PRODIGUE SES DON.
SON SOLEIL LUIT SUR EUX AINSI QUE SUR LES BONS.
VERSE SES FAVEURS SUR L'ÂME INFIDÈLE
QUE L'ABUS DE SES DON'S RENDRA PLUS CRIMINELLE.

*Each hour on sinners God His gifts bestows,
For them His Sun as for the righteous glows :
But faithless souls misuse the gifts outpoured
And guiltier grow with blessings thus ignored.*

On the church at Aime, Savoy. There was another inscription, but it has become illegible.

13. A TOUTE HEURE SOYEZ LES BIENVENUS. *Welcome at all times.*
On a cabaret, Hameau de Flosaille, St. Savin (Isère).

14. AB HOC MOMENTO PENDET AETERNITAS. *On this moment hangs eternity.*

This favourite motto may be seen at the following places : on the porch of St. Andrew's Church, Auckland, co. Durham, with date 1749 ; over the door of a house at Wentworth, Yorks, with " 26 Dec. 1765. delineavit Johan Metcalfe " ; on the parish church of Great Sankey, Lancs, with " J. Simpkin 1781 " ; in the churchyard of Childwall, Lancs, with " I. Simpkin, Burtonwood 1791 " above the motto, and " W^m Spencer, and W^m Owen, churchwardens, 1791 " below ; on the pedestal of a dial in the churchyard of St. John the Baptist, Margate, with No. 1669 ; on a house at Offerton, Cheshire ; at Sprawley, Worcestershire ; on a dial in Frankfort Museum ; on a chapel at East London, near Rawdon, Yorks ; on the porch of Soham church, Cambridgeshire. Also at Newmills House, Balerno, Scotland. This dial was removed from Mayshade, Loanhead, to Newmills House ; it is dated 1794.

15. AB ORIGINE VIRTUS
AD SUBLIMA CURSU(S)
*From the source is (my) goodness
To the heights (my) course.*

On a dial-stone with two faces in the Germanic Museum at Nuremberg. Verses 2 and 3 of Psalm cxiii, *Sit nomen Domini*, etc., are engraved

between the two lines of numerals ; and the stone is elaborately decorated with the signs of the zodiac, and various heraldic designs and mottoes. The name of Philippo Antonio Libero Baroni de Reinach appears, who probably owned the dial, and also the name of the maker, "Devot^{mo} Franc: Xav: Josephus Bovius, S.S. Can. Exam. approb. presbyter Eystettensis invenit, fecit, et demississime dedicavit 1717." The first line of this motto is on a stone dial in the Victoria and Albert Museum, South Kensington, with a further inscription of which only one line can be read : "*Quot Maio flores tibi tot dicantur honores,*" *May honours be assigned thee, numberless as are the flowers in May.*

16. AB ULTIMA CAVE, 1838. *Of the last hour beware.* Seen in 1870 in a house at Porto Fino, Gulf of Genoa. The same motto is on the Casa Beltrami, Ameno, dated 1846.

17. AB ULTIMA AETERNITAS. *From the last hour begins eternity.* Formerly on the Convent of the Récollets, Paris.

18. AB UNA PENDET AETERNITAS, 1833. *One hour leads into eternity.* On the Curé's house, Cognin, France.

19. ABOUT YOUR BUSINESS.

On the General Post Office, London, in 1756 ; and in 1815, on a dial erected by John Devaston, a friend of the poet Shenstone, at the Nursery, West Felton, Salop.

20. ABSQUE SOLE, ABSQUE USU. *Without sun, without use.* Roger Hargreaves, Richard Whittle, Chapel Wardens, A. Dom. 1826. On Heapey Church, Lancashire.

21. ABUSE ME NOT, I DO NO ILL :
I STAND TO SERVE THEE WITH GOOD WILL ;
AS CAREFUL THEN BE SURE THOU BE
TO SERVE THY GOD, AS I SERVE THEE.

This inscription used to be on a copper horizontal dial in Shaw churchyard, in the parish of Oldham ; the cross on which it was erected remains, but the dial-plate was stolen, and a new plate and a different motto have been substituted for the old ones. Three mottoes somewhat resembling the above have been noted as occurring on clocks. The first was supplied to Mrs. Gatty some years ago, and was found in her common-place book :

" I labour here with all my might
To tell the hour by day and night,
If thou wilt be advised by me
Thou'lt serve thy God as I serve thee."

The second, which differs very slightly from this version, is on the Town Hall at Bala, Merionethshire. The third version was kindly sent to us in 1881, by the Rev. H. Maclean, then Vicar of Lanteglos-

by-Fowey, Cornwall, who while visiting a parishioner noticed the following lines placed under an ancient timepiece, neatly written and framed in coloured paper :

" Here my M^{rs} bids me stand
And mark the time with faithful hand,
What is her will is my delight,
To tell the hours by day by night.
M^{rs} be wise and learn of me
To serve thy God as I serve thee."

22. AD OCCASUM TENDIMUS OMNES. *We are travelling each towards his sunset.* Recorded in " Bulletin Monumental de la Société Française d'Archéologie," 1881. No locality given.

23. AD OGNI ORA CHE IO SEGNO, TU RAMMENTA CHE ALTRO CERCAR NON DEVI CHE DIO SOLO. MDCCCLXVI. *At every hour which I mark remember that thou oughtest to seek after none but God only.* On the Istituto delle Suore di San Vincenzo di Paolo, Rome.

24. ADVENIET ILLA DIES : SEMPER PARATUM. *That day will come : (be thou) always ready.* On the terrace at Derwent Hall, Derbyshire, with No. 1536. Some such words as *decet esse*, or *habe te* must be understood.

25. ADVESPERASCIT. *It is toward evening.* (St. Luke, xxiv. 29.) On the façade of a presbytère near Béziers.

26. ADVOCAT AETERNOS QUÆLIBET HORA [DEOS]. *Every hour may bring the Eternal Gods [to us].* In the Court of Signor Luigi Novello's house at Serravalle d'Asti, Italy.

27. AETAS CITO PEDE PRAETERIT, 1787. *The age passes with swift foot.* On the porch of the church of St. Hilary, near Marazion, Cornwall.

28. AETAS RAPIET DIEM, 1783. *Time will hurry away the day.* At Sally Hill, near Gosforth, Cumberland.

29. AFFLICTIS LENTAE. Quinton, 1762. *Slow to the sorrowful.* At Beaurepaire (Isère). "Quinton" probably was the maker's name.

30. AFFLICTIS LENTAE CELERES GAUDENTIBUS HORAE.

*To them that mourn the hours are slow,
But with the joyful swiftly go.*

The above translation was given by the late Dean Alford, who noticed this motto on the Riviera, probably in the Municipio of Rossiglione, near Voltri. The motto has also been seen at Courmayeur : Hyères ; Milan ; in the garden of the Château de Kerouartz, Lannilis (Finistère) ; and on the Sacro Monte at Varese, with the date 26 Febbraio, 1857, and AMICIS QUÆLIBET HORA. In 1888 it was observed by M. Benoit, author of " Les bibliophiles des trois évêchés," on what was once the church of the Carmelite Convent at Vic (anciently Meurthe). The

church had been turned into a market! The dial was near the door. In 1896 a brass dial-plate was sold in London, bearing the same motto on a scroll above two heraldic shields surmounted by a coronet. Below was the line, VOS GENUS ET PIETAS VOS LAUDET GRATIA MORUM. *May your race, your devotion, and your courtesy bring you honour.*

The sentiment of this motto is a favourite theme with poets. It is gracefully expressed by Lamartine in "Le Lac":

"O temps, suspend ton vol! et vous, heures propices,
Suspendez votre cours!
Laissez-nous savourer les rapides délices
Des plus beaux de nos jours!"

"Assez de malheureux ici-bas vous implorent:
Coulez, coulez pour eux;
Prenez avec leurs jours les soins qui les dévorent;
Oubliez les heureux.

"Mais je demande en vain quelques moments encore,
Le temps m'échappe et fuit;
Je dis à cette nuit: 'Sois plus lente,' et l'aurore
Va dissiper la nuit.

"Aimons donc! aimons donc! de l'heure fugitive
Hâtons-nous, jouissons!
L'homme n'a point de port, le temps n'a point de rive;
Il coule, et nous passons!"

31.

AH, WHAT IS HUMAN LIFE!

HOW LIKE THE DIAL'S TARDY MOVING SHADE:
DAY AFTER DAY GLIDES BY US UNPERCEIVED,
YET SOON MAN'S LIFE IS UP AND WE ARE GONE.

On a dial at Hesketh, Lancashire. See No. 1414. The idea contained in this stanza is finely expressed in a sentence from the Talmud, translated by Emmanuel Deutsch: "Life is a passing shadow, says the Scripture. Is it the shadow of a tower, of a tree? a shadow that prevails for a while? No, it is the shadow of a bird in his flight—away flies the bird and there is neither bird nor shadow." The Book of Wisdom (v. 11, 12, 13) gives analogous teaching.

32. AI QUE L'ON TENS PASSA VITE [AÏE QUE LE TEMPS PASSE VITE!]
Ah! how swiftly time passes. Near Montpellier; the dialect is that of Languedoc.

33. AINSI PASSE LA VIE. L'an 1819, 21 Juin. J. H. Jacob. C. Paillas. *So life passes.* On a slate dial at Les Hières (Hautes Alpes); also (fecit Pascalis) at St. Cassien; Gavet (Isère); and La Tour-du-Pin (Isère) dated 1762. With slight variations, or transposition of words, it has been read on the church of St. Paul (Savoy); at the Hameau de Chogne (Isère), dated 1768; and at Pierre Rue (Basses Alpes).

34. AINSI S'ÉCOULE LA VIE. *Thus the years roll on.* On the church of the fortress of Izeaux (Isère).

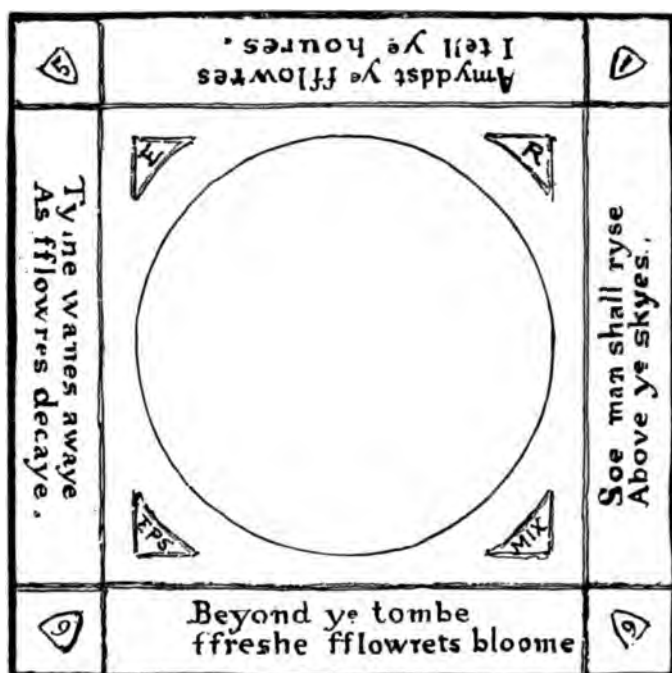
35. AL PROPRIO OCCASO IN POCO D'ORA INCHINA
 LA VITA TUA, O MORTAL, CHE OGNOR VIEN MENO
 ED UN OMBRA SEI TU, CHE GIÀ DECLINA.
*A few short hours now, O mortal man, thy life inclining,
 Towards its own setting, less and less henceforth will grow ;
 Thou too a shadow art, to nothingness declining.*
 Given in "Notizie Gnomoniche," with reference:—Sal. ci. 12 ;
 Mattei.
36. ALL THAT PLEASES, ALL THAT TROUBLES, IS BUT FOR A MOMENT : THAT
 ONLY IS IMPORTANT WHICH IS ETERNAL. On a dial erected by a lady in
 her garden at Dorking, in the year of Jubilee, 1887. Round the base
 No. 1419 is inscribed.
37. ALLE DIE IR HOFFNUNG STELLEN AUF GOT
 VERLEST ER NICHT IN KEINER NOT
 IN ALLEN TUHN UND LASSEN DEIN
 LAS GOT DEIN ENT UND ANFANG SEIN.
 MORS VENIT, HORA FUGIT, METUAS MORTEM VENIENTEM. QUAE LIBET EST
 INDEX FUNERIS HORA TUL. HD. 1560.
*In direst need God will not forsake those who place their trust in Him.
 In all thou doest and leavest undone, let God be thine end and thy beginning.
 Death approaches, the hour flies, fear thou the approach of death. Any
 hour is the signal for thy death.* On an ivory portable compass dial
 in Mr. Evans' collection. The initials are those of Hans Ducher, the
 maker, a well-known diallist of Nuremberg. He spelt his name Ducher,
 or Tucher, indifferently.
38. ALLEZ VOUS. *Pass on.* Some years ago a Dutch vessel came into
 port at Dartmouth, and brought a Dutch sun-dial of singular workman-
 ship, which bore this motto. The dial came into the possession of the
 Vicar of St. Petrox, Dartmouth, and it was placed at the time in the
 vicarage garden, but it is no longer there.
39. ALLOQUAR TE, MORS INSTAT. *I speak to thee, death is at hand.*
 Formerly on the church of Loudwater, Bucks, but in 1889 both the
 motto and the numerals on the dial were found to be obliterated.
40. ALTERA PARS OTI EST, PARS EST ET JUSTA LABORI. *One part is for
 rest, and a due part is for toil.* At Mirepoix (Ariège).
41. AMANT ALTERNA CAMOENAE. *The Muses love the alternate strain.*
 From Virgil, E. 3, 59. On a house in Paris, once the Collège du
 Cardinal Lemoine.
42. AMBIGUIS ALIS LABILIS HORA VOLAT. *The gliding hour flies on its
 fitful wings* (Cicero). Given on an engraving in "Fabrica degli
 Horologi Solari," by Valentino Pini, 1598.

43. AMICIS QUÆLIBET HORA. *To friends any hour you please.* Placed by the painter Jules Lenoir, on his house at Montereau. It is also at Veurey (Isère); at Voreppe (Isère), dated 1770; at Grasse (in 1860); at the Sacro Monte, Varese (No. 30); at Oropa; at Chatillon, with No. 1028; at Calciavacca, Verolengo. In 1866 seen on a house in Murano with No. 589, dated 1862, and having the hour of noon marked by a bell. It was adopted in 1899 by Dr. G. W. Sidebotham for a horizontal dial erected at Broughton Astley Hall, Leicestershire.

44. AMOENA (HORA) SIT QUAM OPTAS. *Pleasant be the hour thou dost desire.* On St. Chaffrey (Hautes Alpes).

45. AMYDDST Y^E FFLOWRES I TELL Y^E HOURES, ETC. (*See Illustration.*)

This design and motto were devised by the Rev. Greville J. Chester,



DESIGN BY REV. G. J. CHESTER.

and given in his story, "Aurelia," with the following description (pp. 160, 161): "... inside the old espaliers, drooping with russet apples and jargonelle pears, a double row of Hollyhock - spires of flame, and rose-colour, and primrose, and white, and crimson, . . . and bunches of golden Aaron's rod, and Canterbury bells, brought from my Lord Archbishop's garden at Addington in flowery Kent, and Bee lark-

spurs, and Prince's feathers, and later on in the year, tufts of purple, golden-eyed Michaelmas daisies; and at the end of all, upon a lump of turf, stood a grey time-tinged sun-dial, inscribed on its four sides with the quaint distiches devised by Bishop Edmund Redyngton, who set it up A.D. 1665."

Mr. Chester's vivid description led some readers to believe that he quoted the motto from an ancient dial, and did not write it himself, but he had considerable talent as a verse writer, and No. 465 is another instance of his grace and wit. The above motto was adopted by Ebenezer Erskine Scott, Esq., for a dial erected by him at Linburn,

Midlothian, in 1892. It was designed by Thomas Ross, Esq., F.S.A., and is nine feet in height. The verses are engraved on the lower step of the base, and on the upper one is verse 3, Psalm cxiii. No. 321.

The Hon. Francis Bowes-Lyon has also inscribed Mr. Chester's verses on the base of a dial which he has erected at Ridley Hall, Northumberland. The design is somewhat similar to the fine dial at his family home, Glamis Castle. The shaft stands on five steps, and supports an octagon crowned by a ball finial. The dials and gnomons are on four facets of the octagon, the other four sides being carved recesses; the upper and lower portions of the octagon are also cut into deep recesses. The shaft is square, and on the upper part is engraved: (1) *UT UMBRA SIC FUGIT VITA*; (2) *POST TENEBRAS SPERO LUCEM*.

46. ANEN, EFANS, Q'UES OURO. (ALLONS, ENFANTS, C'EST L'HEURE.) *Come boys, now's the time!* At La Licune near Narbonne; the dialect is that of Languedoc.

47. ANTE GERBERTUM SILEBANT. *Before Gerbert they were silent.* On a wall of the college at Aurillac. Gerbert, afterwards Pope Sylvester II. (999-1002), was a native either of Aurillac, or of the neighbouring village of St. Simon, and was brought up at the first named place. The motto claims too much, however, for the scientific monk. There were dials before his time, though he may have improved and popularized them. (See Introduction, page 12.)

48. ANTE SOLEM PERMANET NOMEN EJUS. *His Name shall be continued as long as the sun.* Psalm lxxii. 17 (Bible version). At St. Martin d'Hères (Isère) with date "20 Septembre, 1833," the same text, with *Domini* instead of *ejus*, is found on the church at Abriès; with other mottoes in the Place d'Armes, Briançon, see No. 8; and at Château Queyras (Hautes Alpes), with other mottoes and date 1828.

49. ANTE SOLIS OCCASUM DEBET DIES CLARA FECIT
ITAQUE DEUS DUO MAGNA ILLA LUMINARIA LUMINARE
MAJUS AD DOMINIUM DIEI ET LUMINARE MINUS
AD DOMINIUM NOCTIS ATQUE STELLAS
INNOCUI VIVITE NUMEN ADEST.

*Before the setting of the sun the day ought (to be) bright,
So God made the two great lights;
The greater light to rule the day, and the lesser light
To rule the night, He made the stars also.
Live blamelessly, God is at hand.*

VIGILATE QUIA NESCITIS ^{HORAM} ^{DIEI} NEQUE DICTAM
HORAM QUA FILIUS HOMINIS VENIET.

*Watch, for ye know not the day nor the hour nor the appointed hour
in which the Son of man will come.*

OPTIMA QVAEQUE DIES MISERIS MORTALIBUS AEVI
PRIMA FUGIT SUBEUNT MORBI TRISTIS QUÆ SENECTUS.

*Each day is the best of life to poor mortal man,
The first flies by, disease comes on, and sad old age.*

HOC AEQUINOCTIALE HOROLOGII SOLIS (LU)NAE
MARIS NECNON TOTI ASTROLABII DIOPTRAM
CONTINENS AB JOANNE BONAR AERAE
PAED OS LABORATUM FUIT.

*This which contains an aequinoctial dial of sun, moon, and sea,
also a measure of the whole compass, was made by John Bonar of Ayr(?),
Schoolmaster.*

These mottoes and inscription are on the front half of a remarkable dial at Kenmure Castle, Kirkcudbright, which has been fully described by Mr. Ross in his "Castellated and Domestic Architecture of Scotland," vol. v., p. 438 *et seq.* He says: "The dial consists of two flat slate slabs, three-quarters of an inch thick, set up against each other at an angle, like the sides of a lectern or music stand, and they are supported on a modern shaft. . . . The faces are both of the same size, and measure about 2 feet by 1 foot 8½ inches." The old rhyme, "Thirty days hath September," etc., the names of the zodiacal signs, the months, and numerous towns (mostly English and Scotch), are all cut on the same slab as the above mottoes. The second slab has two inscriptions, a quaint rhymed one in Scottish dialect relating to the signs of the zodiac, which we have not space to transcribe, and the following Latin lines:

DUM LICET ET VEROS ETIAM NUNC EDITIS ANNOS
DISCITE EUNT ANNI MORE FLUENTIS AQUAE.

*While time is granted, and even now, ye set forth years that are real.
Learn ye, years pass by like running water.*

The date, "1623 11 Dec", is given on each face of the dial.

50. 'ΑΠΟ 'ΑΝΑΤΟΛΩΝ 'ΗΛΙΟΥ ΜΕΧΡΙ ΔΥΣΜΩΝ, 'ΑΙΝΕΤΟΝ ΤΟ 'ΟΝΟΜΑ ΚΥΡΙΟΥ. *The Lord's Name is praised from the rising up of the sun unto the going down of the same.*—Psalm cxiii. 3.

On a painted cylinder dial 14 inches high, of Italian make, with No. 155. This specimen was sold a few years ago at Puttick and Simpson's in London.

51. APPROPINQUAT HORA, A.D. MDCIII (or CLIII) *The hour is at hand.* On a cylindrical dial in a woodcut in Marius Bettini's "Recreationum Mathematicarum Apiaria," folio, Bologna, 1659. Also on the Church of St. Marcellin (Isère).

52. ARO ES L'OURO DE PLA FE. 1868. (C'EST MAINTENANT L'HEURE DE BIEN FAIRE.) *Now is the time to do good.*

On a house at Pamiers (Ariège).

53. ARO ES L'OURO DEL TRIBAL. (C'EST MAINTENANT L'HEURE DE LA TRAVAIL.) *Now is the time to work.*

Read at Castelnaudary. This, and the motto above, are in the dialect of Languedoc.

54. ARRESTE ICI, PASSANT, PENSE À TA FIN DERNIÈRE,
APPREND QU'UN SEUL INSTANT PEUT FINIR TA CARRIÈRE.

*Pause in life's journey, give to Death one thought ;
Know that one moment may your course cut short.*

At La Fontenil sous Briançon. There are two dates on the dial, 1831 and 1883, the latter being that of its restoration. The same motto in a slightly different form is on the church at St. Chaffrey, (Hautes Alpes); and at Le Monétier-les-Bains, dated 1865.

55. ARRESTO TI PASSANT REGARDO QUANTES D'OURO, ET FOUTO MI ILOU CAMP. (ARRÊTE TOI, PASSANT, REGARDE QUEL HEURE IL EST, ET FOUTEZ MOI LE CAMP.) *Stop a moment, wayfarer, look what time it is, and then be off!*

In the dialect of Provence, seen near Aix.

56. ARRIPE HORAM, ULTIMAMQUE TIMEAS. 8^{BRR} 1812

Snatch the (present) hour, and fear the last.

On a meridian dial at Tours.

57. ARS LONGA VITA BREVIS. *Art is long, life is short.* At Ballafreer Farm, Braddan, Isle of Man, see No. 1020. The dial was made by John Kewley.

58. ARTE MIRA MORTALIUM TEMPERAT HORAS. *With wondrous skill he regulates the hours of men's lives.*

On a house belonging to the Grand Séminaire at Fréjus; also at Villeneuve, Val d'Aosta.

59. A RING IS ROUND AND HATH NO END
SO IS MY LOVE UNTO MY FRIEND.

This posy is on a ring dial in the British Museum, probably the same one that was exhibited by the Society of Antiquaries, 1884, and described in their Proceedings, vol. xi., No. 1.

60. AS A SHADOW, SUCH IS LIFE. Lat. 52° 20' 1848. Over the porch entrance of Wensley Church, Yorkshire.

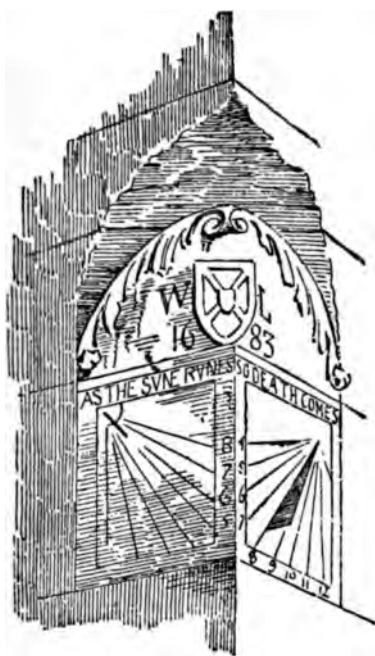
61. AS A SERVANT EARNESTLY DESIRETH THE SHADOW.

These words from Job, vii. 2, with eight other mottoes, were on a dial pillar, called Prince Albert Victor's Dial, shown in the Edinburgh Exhibition, 1886. See No. 1306.

62. AS O'ER THE DIAL FLITS THE RAPID SHADE,
 SO SPEED THE HOURS OF LIFE'S EVENTFUL DAY :
 AS FROM THE PLATE THOU SEE'ST THE SHADOWS FADE,
 TIME UNIMPROVED FLEETS TRACELESSLY AWAY.
 LET THY BRIGHT HOURS, LIKE SUNBEAMS, CALL FORTH FLOWERS :
 TRUTH, MERCY, JUSTICE, HOLINESS, AND LOVE ;
 HERE THEY MAY DROOP BENEATH AFFLICTION'S SHOWERS—
 DOUBT NOT THEIR FRAGRANCE SHALL ASCEND ABOVE.

These lines, under the title "Inscription for a Sun-dial," are in "Poems" by Lady Flora Hastings.

63. AS SHADOWE SO MAN SPEEDETH. 1613. At Church Farmhouse, Marston Magna, Somersetshire.



LIBERTON HOUSE.

64. AS THE SHADE IS SO IS LIFE. Lat. 53. 15. J. Smurthwaite 1804. On a wooden sun-dial which until 1889 was on the Red House Farm, near Kirklington, Yorkshire, where the Smurthwaite family had lived as tenants for several generations.

65. AS THE SVNE RUNS SO DEATH COMES. W L. 1683.

At Liberton House, Midlothian. The initials and arms are those of William Little. The same motto was inscribed in 1892 on one of two window dials at Inch House, on the Liberton estate.

66. AS THESE HOURS DOTH PASS AWAY
 SO DOTH THE LIFE OF MEN DECAY
 MEMENTO MORI. 1731.

On a pillar dial in Wetherall churchyard, Cumberland. The church contains some monuments of the Howards

of Corby Castle, and a tomb bearing the effigies of Sir Richard de Salkeld and "his lady Dame Jane," from whose descendants Lord William Howard bought the Manor of Corby.

"Pray for their souls for charitie :
 For as they are now—so must we all be."

Epitaph on Sir Richard de Salkeld.

67. AS TIME AND HOURS PASSETH AWAY
 SO DOUTH THE LIFE OF MAN DECAY
 1694.

This motto, which is almost identical with that at Wetherall, occurs on a slate sun-dial, above the porch of Diptford Church, Devon.

In the corners are the initials $\begin{smallmatrix} P \\ E \end{smallmatrix} W \begin{smallmatrix} T \\ K \end{smallmatrix} W$ evidently those of the wardens for the year 1694, their office being signified by the letter W. It is also on the dial on Brent Church, South Devon, with initials and date E. M. 1685. A notice in the "Gentleman's Magazine," quoted by Mr. Suckling in the "History of Suffolk," says that in Blythburgh Church, at the west end of the middle aisle, there was a clock with the figure of a man who used to strike the hours on a bell (after the manner of the figures at old St. Dunstan's in Fleet Street); and under the clock the following lines were painted on wood:

"As the hours pass away
So doth the life of men decay."
1682.

The last version is on a ring dial in the British Museum.

68. AS TIME AND HOVRES PASETH AWAYE
SO DOETH THE LIFE OF MAN DECAVE,
AS TIME CAN BE REDEEMED WITH NO COST
BESTOW IT WELL AND LET NO HOWRE BE LOST.

These lines are engraved round the outer edge of a portable brass dial, the size of an old-fashioned watch, which is preserved in the Antiquarian Museum in Edinburgh. When opened a dial and compass are seen on one face, and on the opposite face, which forms the inside of the lid, the meridians of "all the principal townes and cities of Europe" are inscribed, with the words, "This table beginneth at 1572, and so on for ever." The name of the maker, "Humfrey Cole," and the date 1575, are also given.

During the reigns of Edward VI. and Queen Elizabeth Humfrey Cole was the leading English maker of astrolabes and similar instruments, some of which are now in Greenwich Hospital.

69. ASPICE ET ABI. *Look on me and pass on.* On a sun-dial in High Street, Banbury.

70. ASPICE IN HORAM, ET MEMENTO MORI. R.E. 1775. *Look upon the hour, and remember death.*

On an old house in Thomas Street North, Monkwearmouth. The initials R. E. are those of Robert Emerson, who was parish clerk and schoolmaster of Boldon from 1770 to 1805. He possessed considerable mathematical knowledge, and constructed two dials in his own village. One of these he placed over his house, where it still remains, but the motto of this is now illegible; the other is above the church porch.

71. ASPICE ME. *Look on me.*

This in 1787 was at Montmorency, near the Cheval Blanc.

72. ASPICE, RESPICE, PROSPICE. *Look, look back, look forward.*

At Tornaveen, Torphins, Aberdeen, with No. 109. It has also

been inscribed on a dial at Inch House, Midlothian, which was once at Craigmillar, and after having been lost for several years was returned to the owner, Major Gilmour, who placed it in the garden at Inch House, and added the above motto and three others. He also put the following inscription on the pedestal: "This dial stood at Craigmillar Castle. Falling into ruin it was re-erected here with needful additions Anno Dom. 1894." See Nos. 306, 415, 1490.

73. ASPICE UT ASPICIAR. *Look on me that I may be looked on.*

This graceful appeal from the dial to the sun was inscribed upon a device belonging to Queen Louise de Vaudemont, the wife of Henry III. of France.

74. ASPICE UT ASPICIAS. *See that thou mayest see.*

At Tèche (Isère), and in the Rue Vaugirard, Paris.

This motto was also engraved on the south side of a pillar-dial in the churchyard of Areley Kings, Worcestershire. Below the motto was a figure of Time, with an hour-glass and spade, and the lines :

TIME'S GLASS AND SCYTHE	
THY LIFE AND DEATH DECLARE,	CONSIDER
SPEND WELL THY TIME, AND	
FOR THY END PREPARE.	
O MAN, NOW OR NEVER,	
WHILE THERE IS TIME TURN UNTO THE LORD	
AND PUT NOT OFF FROM DAY TO DAY.	

On the north side of the pillar is inscribed :

THREE THINGS THERE BE IN VERY DEEDE,
WHICH MAKE MY HEART IN GRIEF TO BLEEDE :
THE FIRST DOTH VEX MY VERY HEART,
IN THAT FROM HENCE I MUST DEPARTE ;
THE SECOND GRIEVES ME NOW AND THEN,
THAT I MUST DYE BUT KNOW NOT WHEN ;
THE THIRD WITH TEARS BEDEWS MY FACE,
THAT I MUST LODGE NOR KNOW THE PLACE.

I. w. fecit, anno Dñi 1687. Under the date is a figure of Death standing on a human body, holding a dart and spade, and with a fallen hour-glass beside him :

BEHOLD MY KILLING DART AND DELVING SPADE,
PREPARE FOR DEATH BEFORE THY GRAVE BE MADE ;
FOR
AFTER DEATH THERE'S NO HOPE.
IF A MAN DIE, SHALL HE LIVE AGAIN ?
ALL THE DAYS OF MY APPOINTED TIME
WILL I WAIT TILL MY CHANGE COME.—*Job*, xiv. 14.

THE DEATH OF SAINTS IS PRECIOUS,
AND MISERABLE IS THE DEATH OF SINNERS.

On the east side there was :

SI VIS INGRESSE IN VITAM
SERVA MANDATA.

If thou wouldst enter into life, keep the commandments.

JUDGMENTS ARE PREPARED FOR SINNERS.—*Prov. xix. 19.*

and on the west :

SOL NON OCCIDAT SUPER IRACUNDIAM VESTRAM.

Let not the sun go down upon your wrath.

WHATSOEVER YE WOULD THAT MEN
SHOULD DO UNTO YOU
DO YE EVEN SO UNTO THEM.

This dial pillar formerly stood in a private garden at Norchard, in the parish of Hartlebury. According to tradition it was erected, or at any rate inscribed, by an occupant of the house, who was a student and recluse, and went by the title of "The Wizard." The Rev. F. Simcox Lea, late of Tedstone Delamere, recollects "the wizard's pillar" as being one of the sights of Hartlebury in 1834, and he believes that the somewhat morbid tone of all the inscriptions arose from the introversial character of the inscriber's mind, who seems to have held much solitary communion with himself, and to have had a great dread of the future life. The house was pulled down about the year 1827, and the dial was given to the Rev. H. J. Hastings, rector of Areley Kings, who put it into the churchyard there.

75. ASPICIENDO SENESCIS. *Thou growest old in beholding.*

A. F. Arsenio Capucinatorum. 1853.

On a meridian dial at Aix-les-Bains ; the maker, Fra Arsenio, constructed several other dials, at Annecy and elsewhere. The motto has also been seen at Nice, and at Sennecey-le-Grand, where it was possibly chosen as a play on the words *Sennecey* and *senescis*. It occurs likewise at Paray le Monial (Saône-et-Loire), with Nos. 134, 302, 1514, 1597 ; and at the Convent of St. Pens, near Nice ; the Grand Séminaire, Avignon ; and at several other places in France and Italy. ME ASPICIENDO SENESCIS is on the church of Vitry sur Seine ; and in the garden of the Hospital of St. Jacques at Besançon, with Nos. 233, 717, 966, 975, 1070, 1297, 1548.

76. ASSIDUO LABUNTUR TEMPORA MOTU. Ovid, "Metam." xv. 179.

The seasons glide by with constant motion.

Given in "Notizie Gnomoniche."

77. ASTRA REGUNT HOMINES, *The stars rule men,*
SED DEUS REGIT ASTRA. *But God rules the stars.*

On the belfry of St. Germain la Blanche Herbe, near Caen, with No. 1484.

78. AUJOURD'HUI À MOI, DEMAIN À TOI. *To-day is mine, to-morrow thine.*

On church of St. Véran (Isère); and in the cemetery at Courmayeur.

79. AUGET FIDEM CONCORDIA. *Concord increases faith.*

Formerly on the Séminaire de St. Sulpice, Paris.

80. AURORA HORA AUREA. *Dawn the golden hour.*

Engraved on the gnomon of an old pedestal dial which once stood on the lawn at Mountains, near Hildenborough, Kent.

81. AUT DISCE, AUT DISCEDE. *Either learn or go.*

On a dial at the Royal Military Academy, Woolwich. The same motto, with the addition, MANET SORS TERTIA CAEDI, *A third choice remains, to be flogged*, is preserved on a tablet at the end of the school-room of Winchester College, being characteristic of the hardy discipline of that ancient public school.

82. AUT LAUDA VEL EMENDA. 1738. R. Nellson, Fecit. *Either commend, or amend.*

The note respecting this dial has been imperfectly filled up, and the collector has lost all recollection of the locality. Its application is dubious, but possibly the same as No. 182.

83. AUT MERCES AUT POENA MANET QUAS VIVIMUS HORAS.

Reward or punishment awaits the hours of our life.

On the Hôtel de Ville, Mende.

84. AUTANT BOIRE ICI QU'AILLEURS. *As well drink here as elsewhere.*

On an inn at St. Didier de la Tour (Isère); and at Vasselin (Isère).

85. AUTREFOIS NOUS COMPTIONS LES HEURES COMME VOUS,
A PRESENT NOUS SOMMES MORTES, COMPTEZ-LES NOUS.

*In life like you we marked the passing hours,
Now we have passed away the task is yours.*

On a mausoleum in the cemetery at Rabastens d'Albigeois. A clock dial is engraved above.

86. AVANT DE REGARDER SI JE SUIS JUSTE, REGARDE SI TU L'EST TOI-MÊME. *Before thou lookest if I am right, look if thou are right thyself.*

At Laon.

87. AVE MARIA DÑI MEI MATER. *Hail, Mary, Mother of my Lord.*

On a dial dated 1881, within the church of Harcourt (Eure)

88. AVEC L'OMBRE JE MARQUERAI. *By the shadow I shall mark (time).*
At St. Ismier (Isère).

89. BADAN, FAR TOUN CAMIN, L'OURO PASSO. (PASSANT, VA TON CHEMIN, L'HEURE PASSE.) *Wayfarer, go thy way, the day wanes.*

On an old house by the roadside, between Brignoles and Vins (Var), in the dialect of Provence.

90. BAASE JIU BIOYS MAIRAGH. *Death to-day, life to-morrow.*
At Ballafreer Farm, Isle of Man. See No. 1020.

91. BE THANKFUL, WATCH, PRAY, WORK. 1886. H. Leeson, Cornhill.
On a dial plate, which rests on an ancient pedestal in Maxtoke churchyard, Warwickshire.

92. BE THE DAY WEARY, BE THE DAY LONG,
SOON SHALL IT RING TO EVENSONG.

On a wall in the village of Ashcott, Somerset.

93. BEGONE ABOUT YOUR BUSINESS.

Is inscribed on a wooden dial of a house at High Lane, near Disley, in Cheshire. Mr. Timbs records that it was on the dial of the old brick house which stood at the east end of the Inner Temple terrace, whence it was removed in 1828. The brusqueness of the advice is accounted for by the following pleasant legend, given in "Notes and Queries," 2nd S, v. ix., p. 279: "When the dial was put up, the artist inquired whether he should (as was customary) paint a motto under it. The Benchers assented, and appointed him to call at the Library on a certain day and hour, at which time they would have agreed upon a motto. It appears, however, that they had totally forgotten this; and when the artist or his messenger called at the Library at the time appointed, he found no one but a cross-looking old gentleman poring over some musty book. 'Please, sir, I am come for the motto for the sun-dial.' 'What do you want?' was the pettish answer: 'why do you disturb me?' 'Please, sir, the gentleman told me I was to call at this hour for a motto for the sun-dial.' 'Begone about your business!' was the testy reply. The man, either by design or mistake, chose to take this as an answer to his inquiry, and accordingly painted in large letters under the dial, BEGONE ABOUT YOUR BUSINESS. The Benchers, when they saw it, decided that it was very appropriate, and that they would let it stand—chance having done their work for them as well as they could have done it for themselves. Anything which reminds us of the lapse of time should remind us also of the right employment of time in doing whatever business is required to be done."

The same idea is repeated on the gable of a cottage between Stockport and New Mills; and on the church of Bury St. Edmunds.

94. BEHOLD AND APPLY YOURSELF TO DUTY
CONSUME NOT YOUR TIME IN IDLENESS.

1839. Lat. 53° 30'.

At Upper Mill, Saddleworth, Yorkshire.

95. BEHOLD NOW IS THE ACCEPTED TIME (2 Cor. vi. 2).
SEEK YE THE LORD WHILE HE MAY BE FOUND (Isa. lv. 6).

1754.

On Cains Cross, near Stroud, Gloucestershire, with No. 1126.

96. BLESSED ARE THE DEAD WHICH DIE IN THE LORD.

These words, from Rev. xiv. 13, have been inscribed at the base of a pedestal-dial in the churchyard of St. Botolph Without, Aldersgate Street, London. The plate has on it an engraving of the old Alders Gate; and the following inscriptions are cut on three sides of the pedestal:

"This ancient burial-ground, converted into a garden by vote of the parish, and with the concurrence of the Vicar, was opened to the parishioners by John Staples, Esq., F.S.A., Alderman, on Thursday 28 October, 1880. S. Flood Jones, M.A., Vicar. George Sims, C.C. John Hutchinson, Churchwardens, 1881." This marks the date of the dial.

97. BOAST NOT THYSELF OF TO-MORROW
FOR ON THINE EYELIDS IS THE SHADOW OF DEATH.

Taken from Prov. xxvii. 1, and from Job, xxvi. 16. On a dial in the Albert Park, Middlesbrough (see Nos. 291, 1334, 1366, 1378, 1381, 1406). Also on the Wesleyan Chapel, Bielby, near Pocklington, dated 1838, with No. 1259. Both of these dials were made by Mr. J. Smith, of South Stockton.

98. BON JOUR 1728. *Good morning.*

At St. Hilaire du Rosier (Isère); and at Chatte (Isère), dated 1763.

99. BON SOIR. *Good night.*

At St. Quentin (Isère).

100. BREVES SUNT DIES HOMINIS. *Short are the days of man.*

On the church, Niederwald, Haute Valais, Switzerland.

"La vie est vaine
Un peu d'amour
Un peu de haine
Et puis—bon jour!"

"La vie est brève;
Un peu d'espoir,
Un peu de rire,
Et puis—bon soir!"

101. BREVIS ÆTAS, VITA FUGAX. *Time is short, life is fleeting.*

On the south transept of Leighton Buzzard Church. There are three other dials on the transept, all with mottoes (see Nos. 185, 249, 1582). On the north transept there is a fifth dial, but it has no motto.

102. BREVIS HOMINUM VITA. *Short is the life of man.*

On the dial which was formerly on the porch of Aberford Church, Yorkshire. It was removed when the church was rebuilt, and is now laid aside.

The motto recalls the lines of Bernard de Morlaix :

"Hic breve vivitur, hic breve plangitur, hic breve fletur ;
Non breve vivere, non breve plangere, retribuetur."

*Here brief is the sighing, here brief is the crying, here brief is the life ;
The life there is endless, the joy there is endless, for ended the strife."*

103. BRIGHT SOL AND LUNA TIME AND TIDE DOTTH HOLD.
Chronodix Humbrale, 1720.

Over the church door at Towednack, Cornwall.

104. BULLA EST VITA HUMANA. *The life of man is a bubble.*

With nine other mottoes on a cross dial at Elleslie, near Chichester (see Nos. 329, 827, 841, 966, 1048, 1172, 1485, 1541, 1574).

105. BY LIGHT FROM HEAVEN I MARK HOW DAYS DO DIE ;
HOW RISE AGAIN AT MORNING-TIDE I MARK.
WHEN CLOUDS OBSCURE THAT LIGHT, I PATIENTLY,
STRETCH MY DUMB GNOMON, HOPEFUL IN THE DARK,
WAITING TO CATCH ONCE MORE SOME GUIDING HEAVENLY SPARK.
TO DIE, TO RISE, TO HOPE IN TIME OF TRIAL,
TAKE, MASTER, THUS THY LESSONS FROM THY DIAL !

These lines were written by the Rev. J. T. Jeffcock in 1861, and he intended to have them inscribed on the dial in the garden of the vicarage at Wolstanton, where he was then Vicar, but his intention was not carried into execution.

106. CADE L'OMBRA AI RAI
NEL MEZZO GIORNO,
E SINO ALL' OCCASO
IL LOR SOGGIORNO.
1853.

The shadow falls under the rays (of the sun) at noontide, and until sunset is their sojourn.

Alluding to the position of the dial which declines west, and therefore catches the sun's rays from midday to sunset. It is on a house at La Tour, the little capital of the Waldensian valleys of Piedmont, and is painted on the wall, the motto being in one corner. Copied in 1865.

107. CAPIT OMNIA NUSQUAM DEVIUS. [*The sun*] *never swerving embraces all.*

Recorded in "Bulletin Monumental," 1878, but no locality given.

108. CARPE DIEM. *Seize the (present) moment.*

The earliest dated example of this motto is at Cadder House, near

Glasgow, where it appears with Nos. 443, 896, and the date 1698. It is on a vertical dial, dated MDCCXVII, on a house in High Street, Lewes, and on a horizontal dial at Brahan Castle, Ross-shire, dated 1794 : and at Kings Coughton House, near Alcester, on a horizontal dial brought from Salford Priors, inscribed " John Clark, fecit 1742. Petworth." It was formerly on the church tower at Offchurch, Warwickshire (where the dial is painted with the sun's face, the gnomon acting as nose), with " William Snow, Churchwarden, 1795," but is now illegible. It is also at Burton Hastings, Warwickshire; in Overton churchyard, Flintshire, with Nos. 940, 1176, and date 1803 ; and in 1855 it was inscribed on a circular erect dial painted in blue and gold on the gable of a modern wing, which was added in that year to the old Elizabethan mansion of Heslington Hall, near York.

109. CARPE DIEM, HORA ADEST VESPERTINA. *Seize the present moment, the hour of evening is nigh.*

Upon the stone support of a dial at Tornaveen, near Torphins, Aberdeen. On the dial plate No. 72 is engraved.

110. CARPE, FUGIT. *Seize it,—it flies.*

At Chinon (Indre et Loire), 1881.

111. CARPE VIATOR LICET : SOL TENEBRAS DISSIPAT :
UT HORA SIC VITA ; VIRTUTE SOLA MORES.

*Traveller, thou mayest proceed : the sun dispels the darkness :
Life is but as an hour ; character is by virtue alone.*

Two dismantled sun-dials placed in a corner of the garden walls at Effingham Castle, Northumberland, bear these mottoes.

112. CAUTE CAVE MEDIO NE DESIT LUMINE LUMEN.—*Take heed that light be not wanting at mid-day.*

Recorded in " Bulletin Monumental," 1883.

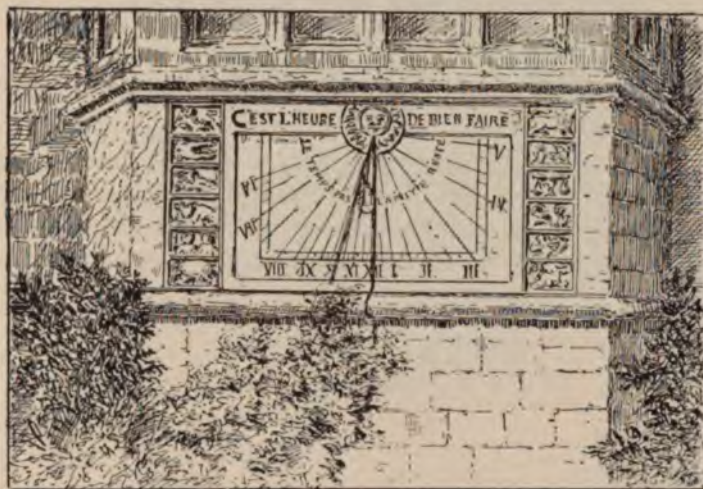
113. C'EST L'HEURE D'AIMER (DE SERVIR) DIEU. *Now is the time to love (serve) God.*

At Quincieux ; and on the Ecole des Frères, St. Siméon de Bressieux (Isère) respectively.

114. C'EST L'HEURE DE BIEN FAIRE. *It is the hour for well-doing.*

On a dial erected by Lord Ilchester at Melbury Castle, Dorset. The dial is placed below a bay window, and the signs of the zodiac are engraved down either side of the face. A second motto (No. 632) is below the gnomon. The projecting bay extends to the top of the house, and has the appearance of a turret. It was built about 1890, when extensive additions were made to the house, the

design being copied from an older part of the building dated circa 1400. The illustration is from a kodak photograph taken by Lady Muriel Fox Strangeways. The same motto (114) is at Holmhurst, Sussex, inscribed by A. J. C. Hare, Esq.; at Erlesdene (formerly at The Beeches), Bowdon, Cheshire, inscribed by the late J. Sidebotham, Esq. It has been read at the Charreuse, Auray (Morbihan); and in the South of France at Bozel (Savoy); Champagnier (Isère), dated 1849; Lentiell, dated 1862; Les Alberts (Hautes Alpes); Nice; and at Porto Maurizio, the words being slightly varied in some instances.



MELBURY CASTLE, DORSET.

115. C'EST L'HEURE { DE BIEN VIVRE, 1831.
DE REPENTER
DE SE CONVERTIR.

Now is the time to live well, to repent, to be converted.

These slightly varied mottoes are at Apprieu (Isère); at Tarascon; at La Rivière (Isère); and at the Hameau du Sabot at Vatilieu (Isère).

116. C'EST L'HEURE DE BOIRE. *Now is the time for drinking.*

On an Inn at Libourne; and on a *cabaret* at Beaucroissant, dated 1796-1808. Also at La Murette (Isère).

117. CELUI QUI DORT LA GRASSE MATINÉE
DOIT TRAVAILLER L'APRÈS-DINÉE.

*He who sleeps the morning through
His work in afternoon must do.*

At La Tour du Pin (Isère).

118. CERTA MIHI MORS, INCERTA EST FUNERIS HORA. *My death is certain, but the hour of my death is uncertain.*

Recorded in "Bulletin Monumental," 1881.

119. CERTA RATIO, 1772. *A sure reckoning.*

On Deighton Church, Yorkshire.

120. CETE MONTRE PAR SONOMBRE NOV S MONTRE QUE COME PASSE-
LOMBRE PA SSENTN OSIOURS.

(CETTE MONTRE PAR SON OMBRE NOUS MONTRE QUE COMME PASSE
L'OMBRE PASSENT NOS JOURS.)

This marker marks by its shadow that like a shadow our days pass away.

The style divides the letters of the last word but one, of this curiously spelt and divided motto which dates from the eighteenth century, and is on the church at Argentières (Hautes Alpes). The first words of a Latin rendering, "Signat mon—" are also just visible.

121. CETTE OMBRE SOLAIRE EST À LA FOIS
LA MESURE DU TEMPS, ET L'IMAGE DE LA VIE.

This solar shadow is at once the measure of time and the symbol of life.

At Courmayeur.



HATFORD CHURCH.

122. CHARITAS
UBI CHARITAS IBI CLARITAS UNAM QUÆRE
ALIUM TIME ALTERAM SPERA.

*Where charity is, there is fame ; en-
sue the one and keep it, hope for the other.*

On the former convent of the
Minimes, Vitry le François.

123. CHEMINEZ TANDIS QUE VOUS AVEZ LA
LUMIÈRE. 1668.

Walk while you have the light.

חַיִּים קָצֵר וְעֵמֶל אֲנֵךְ מְרֻבָּה

The day is short and the work great.

These two inscriptions, together with No. 1530, and a Greek motto now quite illegible, are on a dial on the church wall at Hatford, near Faringdon, Berks, just below the bell turret. The Hebrew line (which was ill cut and even in 1888 very nearly defaced) was from the Talmud.

124. CHRISTUS SOLUS MIHI SALUS. Jo. Clerke. *Christ alone is my salvation.*

Inscribed on the step of the base of a broken pillar at Ingoldswick, near Skegness. The pillar forms the gnomon, and the square base the dial. The hours are cut at the edge, with the date 1600. M.B. The pillar probably once formed the shaft of a cross.

125. CHRISTUS UBI PARET PROTINUS UMBRA FUGIT. *Where Christ appears, straightway the shadows fly.*

On an eighteenth century dial on Bourges Cathedral.

126. CITO PEDE LABITUR ÆTAS. 1724. *With swift foot doth time glide by.*

On the stone pedestal of a dial in the churchyard of Frant, Kent. The metal plate is beautifully engraved with ornamental devices.

127. CITO PEDE PRÆTERIT ÆTAS 1679. *With swift foot time goes by.*

On a dial, the pedestal of which is a "stumped" cross, in Over Peover Churchyard, Cheshire; also at Wigmore Grange, near Ludlow, with No. 1604; and on St. Peter's Church, Ermington, Devon.

The words are prefixed to the parish register at Loweswater, Westmoreland. They are from the poet Columella:

"Vigilate viri, tacito nam tempora gressu
Diffugiunt, nulloque sono convertitur annus;
Utendum est ætate, cito pede præterit ætas.

128. CITO PRÆTERIT ÆTAS. *The age passes swiftly.*

On a buttress of the east or lesser transept of Lincoln Cathedral. Another dial close beside this one bears the motto: PEREUNT ET IMPUTANTUR. The two dials face respectively south and east, and were probably put up in the seventeenth century.

129. CÆLESTIA MONSTRAT IN UMBRA. *In a shadow he explaineth the heavens.*

Given in "Apelles Symbolicus" (Kettner, Amsterdam), as on a dial in France.

130. CÆLESTIUM INDEX SOL GENERAT UMBRAM. *The sun who guides the heavenly bodies produces the shade.*

Recorded in "Bulletin Monumental," 1881.

131. CÆLI ENARRANT GLORIAM DEI, ET OPERATIONEM MANUUM EJUS ANNUNTIAT FIRMAMENTUM. *The heavens declare the glory of God, and the firmament showeth His handy-work* (Ps. xix. 1).

On the dial at Moccas Court, Herefordshire, with other mottoes. See No. 1469. The first four words are on a dial on St. Martin's Church, Leicester; and have been also read at Lindau, Bavaria. ENARRANT GLORIAM DEI, with "Juin 1811," is on the Grand Séminaire, Grenoble.

132. CÆLI LUX NOSTRA DUX. *Heaven's light our guide.*

On a horizontal dial made in 1898 by F. Barker, London, for E. M. S. Testcombe, Esq.

133. CÆLUM REGULA 1779. *Heaven (is our) guide.*

At Mont Genève (Hautes Alpes); and at Vallouise (Hautes Alpes),

with three other mottoes (Nos. 305, 501, 1591), the date 1840, and the initials Z. G. F. and M. D. B.

These first initials are those of Giovanni Francesco Zarbula (or Zerbola), a Piedmontese mason and stone painter, who designed and painted a great number of dials in Dauphiné, chiefly in the neighbourhood of Briançon. "His works," says Dr. Blanchard, "are generally dated, and signed Z. G. F., G. Z. F., or Z. J. F. The design of the border is often surmounted by fantastic or heraldic ornaments, either birds and pots of flowers, or a cock. In Queyras birds prevail, and have their ordinary names attached to them. The mottoes are in French and Latin indifferently, and are rarely incorrect in spelling. Probably Zarbula had a book of designs from which he copied. The birds have a certain resemblance to the Byzantine type.

The initials M. D. B. on the Vallouise dial are probably those of the Marquise de Bardonnèche to whom the house belonged. Above the dial was the monogram IHS.

134. COGITA FINEM. *Think on thy end.*

At Paray le Monial (Saône et Loire). See No. 75.

135. COGITAVI DIES ANTIQUOS, ET ANNOS ÆTERNOS IN MENTE HABUI. *I have considered the days of old and the years that are past.* Ps. lxxvii. 5.

With No. 1587 on an oval portable dial and compass of gilt brass bought in Antwerp by Mr. L. Evans. It was probably made about 1600.

136. COL DISTINGUER DEL SOL VELOCE IL MOTO,
L'ORE DEL VIVER TUO BREVE DINOTO.

*Whilst I record the progress of his rays,
Thus do I mark the shortness of thy days.*

Given in "Notizie Gnomoniche."

137. COME IN TIME.

On the church of Bradfield St. George, Suffolk. It was also read in 1896 at a furniture broker's shop in London, on a dial which had been removed from a garden near Sydenham.

138. COME, LIGHT! VISIT ME! 1846.

At the Knoll, Ambleside.

The history of this motto, and of the sun-dial which bears it, is given by Harriet Martineau in her autobiography, vol. i. and ii., pp. 80, 265. At the age of seven she visited her grandfather, near Newcastle, and in his garden there was a large, heavy stone sun-dial. "That dial," she says, "was of immeasurable value to me. I could see its face only by raising myself on its step, and there, with my eyes on a level with the plate, did I watch and ponder, day by day, painfully forming my first conceptions of Time, amidst a bright confusion of notions of day and night, and of the seasons, and of the weather. I

loved that dial with a sort of superstition ; and when, nearly forty years after, I built a house for myself at Ambleside, my first strong wish was to have this very dial for the platform below the terrace, but it was not to be had. It had been removed once already, when the railway cut through the old garden, but the stone was too heavy and far too much fractured for a second removal. A friend in London who knew my desire for a sun-dial, and heard that I could not obtain the old one which had told me so important a story in my youth, presented me with one to stand under my terrace wall, and above the quarry which was already beginning to fill with shrubs and wild flowers. The design of the dial is beautiful, being a copy of an ancient font, and in gray granite to accord with the gray stone house above it. The motto was an important affair. A neighbour had one so perfect in its way as to eclipse a whole class, 'The night cometh.' In asking my friends for suggestions, I told them of this, and they agreed that we could not approach this motto in the same direction. I preferred a motto of my own to all that were offered in English, and Wordsworth gave it his emphatic approbation : 'Come, light! visit me!' stands emblazoned on my dial, and it has been, I believe, as frequent and impressive a monitor to me as ever was any dial which bore warning of the fugacious nature of life and time."

139. COMME L'OMBRE QU'ICI ON VOIT SUIVRE NOS PAS,
AINSI PASSENT NOS JOURS ET NOUS N'Y PENSONS PAS.

Like the shadow which we see here following our steps, so pass our days and we take no heed.

At the Château, Ile d'Oléron.

140. COMME UN COULANT RUISSAU DE SA SOURCE ARGENTINE,
DROIT AU SEING DE THETIS PRECIPITE SON COURS
SEMBLE NE SE CHANGER ET SE CHANGE TOSIOURS
AINSV L'HOMME SANS CESSÉ A LA MORT SA CHEMINE
COMME L'ON ENTRE AU MONDE IL FAULT QUE L'ON EN SORTE.
DANIEL IOVFROV. A Besançon, 1629.

*As when a river from its silvery source
Speeds on its headlong course right to the sea,
And seeming not to change, doth change unceasingly,
So runs from birth to death man's changeful course,
So as we enter life, our exit needs must be.*

On a bronze dial plate now in the possession of Charles T. Gatty. The lines are engraved in two concentric circles, outside the numerals, the divisions between the lines being marked by asterisks. A similar plate, with the same inscription, is in the Museum at Varzy, and was the subject of a *brochure* by M. Grasset, "Sur un cadran solaire en plomb."

141. CON L'ORE ANCO LA VITA. *As the hours, so our life.*

Given in "Notizie Gnomoniche."

142. CONCITO GRADU. *With hurried step.*

On the porch, and formerly on the tower, of Ruishton Church, Somersetshire. Also at South Ella. See No. 932.

143. CONCORDIA. 1715. FRATRUM. 1823. *The love of brothers.*

On two complementary dials at Arvieux (Hautes Alpes).

144. CORRIGE PRÆTERITUM.
PRÆSENS REGE.
CERNE FUTURUM.

Correct the past, direct the present, discern the future.

Formerly in the Altmarkt at Dresden. The English version was placed on a horizontal dial made by F. Barker, London, in 1895.

145. CORRO A QUEL DÌ CHE DEL SIGNOR LA SPADA
UNA FARÀ L'ITALICA CONTRADA.

*I haste to that day when God's almighty hand
Of Italy will make one undivided land.*

QUESTA FIDA CHE FA LANCE CHI'IO PORTO
SEGNA L'ORA D'UN POPOLO RISORTO.

*This faithful shaft I bear one day shall trace
The hour of freedom for our downtrod race.*

These inscriptions are placed above two dials, which stand side by side on the cathedral wall of Chieri, in Piedmont. One of them also shows the meridians of the chief cities of the world. The motto is patriotic, and a literal translation of it is most difficult. It has puzzled not only good Italian scholars, but native Italians also. The above verses have been written for the present edition by B. Bentham Dickinson, Esq., of Rugby, and though he has used some poetical license in rendering such words as *spada* and *risorto*, the translation follows the idea of the original very closely, and is much better than any previous rendering. In the last edition we had only a literal translation of the mottoes. The word *lance* may be taken as a shortened form of *lancetta* – *gnomon*, *dart*, or *small lance*; possibly the *gnomon* in this instance was shaped as a weapon. Chieri is a few miles from Turin, on the left bank of the Po. It is an old town, but has suffered too much in the mediæval wars to retain many vestiges of antiquity. It has a round church of early Lombard architecture, which is now used as a baptistery. In its brighter days it was a free town, sending traders over half of Europe. It often changed its protectors: sometimes from choice, but more frequently from necessity; and at last gave its allegiance to the Counts of Savoy in 1347. The family of Balbo springs

from Chieri; and one branch of this house, the Bertoni, refusing to accede to the treaty of 1347, emigrated to Avignon, where they assumed the name of Crillon, and were ancestors of the "Brave Crillon," *l'homme sans peur*, or *le brave des braves*, as he was called when serving under Henry IV. The other branch remained Piedmontese, to the glory and benefit of their country.

146. COSÌ LA VITA. *Such is life.*

Copied from a dial at Albizzola.

147. COURIER, AVANCE, CAR IL EST PLUS TARD QUE TU NE PENSE (*sic*).
Pascalis. 28 Octobre 1787. *Forward, traveller, it is later than you think.*

At La Tèche (Isère).

148. CRAIGNEZ LA DERNIÈRE. *Fear the last (hour).*

On the church of Notre Dame, Roscoff (Finistère). The place is remarkable in history as being the landing-place of Mary, Queen of Scots, when she came from Scotland to be married to the Dauphin, afterwards Francis II. of France. The weather being very stormy, the young queen and her escort were glad to be put ashore at this small village, and from thence to go forward to Paris. The church on which this melancholy motto is inscribed, has in it the memorials of many shipwrecks, as well as of escapes from drowning, several large votive ships being suspended from the roof. From both these circumstances the imperative warning of the dial gathers solemnity. The shadow of the "last hour" stretches back over the whole course of Mary Stuart's life, and the fear of it has made sad the hearts of many a fisher family on those stormy shores. The motto, with No. 615, is also on a dial at St. Girons (Ariège); and as CRAINS LA DERNIÈRE on the church of St. Martin, Moissac (Tarn et Garonne). There is a similar motto on the church of St. Jean, Châlons-sur-Marne, CRAIGNEZ CELLE QUI SUIV. *Fear that which comes after.*

149. CREDE OMNES MERITIS QUÆ NON SEQUANTUR AMISSAS. *Count all hours lost which are not accompanied by some worthy deed.*

On the Château de St. Fargeau (Yonne).

150. CREPUSCULUM MENS NESCIAT. *Let the mind know no twilight.*

On a horizontal dial in the cloisters of the Certosa, Val d'Ema, near Florence (see Nos. 297, 1005). The Italian hours from xv to xxii are shown.

151. CRESCIT IN HORAS DOCTRINA 1819. *Hour by hour the doctrine grows.*

At the University, Padua.

152. CROIEZ ICI CRESTIENS PASSANT QU'EN CE S^t LIEU IL NOUS FAULT PRIER LE FILS DE DIEU ET AUSSI S^t VENANT QU'ILS NOUS VEUILLE DE MAL DELIVRER. 1620. M.F (m'a fait) François Morcar. *Believe here, Christian passers by, that in this holy place we must pray the Son of God and also St. Venant that they will vouchsafe to deliver us from evil.*

On a church at Murs, of which St. Venant was the patron saint.

153. CROIEZ TOUS CECI
CRETIENS PASSANT
QU'IL FAUT MOURIR
L'HEURE LATANS (*sic*).

*Believe me Christian passers-by
The hour awaits ye, you must die.*

On an eighteenth century dial at Epire (Maine et Loire).

154. CUI DOMUS HUIC HORA. 1834. *The hour is His to Whom this house belongs.*

On the church La Fontenil sous Briançon.

155. CUM CŒLUM ASPICIO QUAM MIHI SORDET HUMUS. *When I behold the heavens, how vile a thing earth seems to me.*

With No. 50 on a painted cylinder dial of Italian make.

156. CUM RECTE VIVAS, NE CURES VERBA MALORUM. *So thou livest aright, heed not the words of the wicked.*

Copied several years ago at Poirino, Piedmont.

157. CUM TEMPUS NON EXISTET MORIOR. *When time shall be no more,—I die.*

On a dial in the garden at Cargen, Dumfries.

158. CUM UMBRA NIHIL.
SINE UMBRA NIHIL.

With the shadow nothing: without the shadow nothing.

Copied in 1866 from the Italian custom-house on the Splügen Pass, near Campo Dolcino. The motto has also been read at Castasegna, in the Val Bregaglia; and at Bezzeca in the Trentino, where the first *nihil* is written *nichil*.

159. CUNCTA DUBIA. *Nothing is certain.*

At Meylan (Isère).

160. CUNCTA REGIT DUM PAREAT UNI. *All else he governs, so he One obeys.*

At the Château d'Anêt (Eure et Loire), once the residence of Diana of Poitiers, who died there in 1566. The original building, begun in 1548 and finished in 1554, was one of the finest works of the

French Renaissance. In 1793 it was the property of the Duc de Penthièvre, whose death was hastened by the tragic fate of his daughter-in-law, the Princesse de Lamballe; the estate was afterwards seized and sold by the National Assembly, and the greater part of the château destroyed. One wing and the entrance gateway is all that now remains, and is preserved as a "monument historique." Before the destruction of 1793 there was an elaborate dial, which has been fully described by Le Marquant, on the inner side of the gateway, bearing the inscription:

CUR DIANA OCULIS LABENTES SUBJICIT HORAS?
UT SAPERE ADVERSIS MONEAT FELICIBUS UTI.

Why doth Diana view the fleeting hours?

To warn us to be wise when they frown, to employ them when they smile.

The motto is mentioned in the works of Mellin de St. Gelais, edited by M. Prosper Blanchemain. It is probable that the mention of Diana also contains an allusion to the dial being calculated for use by night as well as by day.

161.

CUR GEIL DA'AN SCA
SHEN MYR TA'N TRA.

*Observe the mark of the shadow,
In that manner is time represented.*

Mr. Jeffcott, of Castletown, Isle of Man, who has kindly translated this and the other many mottoes on the same dial, says that some of the words are abbreviated; if fully given the lines would run thus:

CUR GEILL DEAN SCAL!
SHEN MYR TAYRN TRAA.

"Dean" denotes a *mark*, and "tayrn" means to *draw, delineate*, or represent. There are several mottoes on this dial block, the above with QUID CELERIUS UMBRA? *What is swifter than a shadow?* being on the east side. See Nos. 761, 788, 1049, 1349, 1536, 1660. The dial is now in the possession of Lewis Evans, Esq., and has been erected by him in his garden at Barnes Lodge, King's Langley.

162.

CUR TIBI SPEM VITÆ LONGOS PRODUCIS IN ANNOS?
UT MOMENTUM HORÆ SIC TUA VITA FUGIT. 1573.

*Why dost prolong the hope of life for long years to come?
As a moment of time doth life flit.*

On a brass dial plate in the Museum of Nuremberg.

163.

DA MATEMATICHE LINEE L'ORA VEDRAI,
SE DENSA NUBE NON COPRE DEL SOLE I RAI. 1858.

*By mathematical lines thou shalt see the hour,
If dense clouds do not cover the rays of the sun.*

On a dial painted on the wall of a house at Caprile, Venetia, bearing the face of the sun on a blue ground.

164. DAMMI IL SOLE E DEL GIORNO L'ORA È CERTA ;
SOLO DEL UOMO È L'ULTIMA ORA INCERTA.

Give me the sun, and the hour of the day is certain ; of man alone is the last hour uncertain.

On the church at Arola, a village between Lago d'Orta and Val Sesia.

165. DANS CE JARDIN, TOUT SE RENCONTRE
EXCEPTÉ L'OMBRAGE ET LES FLEURS ;
SI L'ON Y DÉRÈGLE SES MŒURS
DU MOINS ON Y RÉGLE SA MONTRE.

This garden is a common meeting-place for all, except for flower and shade. If our manners become irregular, we can at any rate keep our watches regular.

Lines by Jacques Delille on, or for, the sun-dial in the Palais Royal Garden, Paris.

166. DATAM DO.
NEGO NEGATAM.

I give what hath been given, I deny what hath been denied.

At a village near Fénestrelles.

167. DAY GIVES PLACE TO NIGHT ; LIFE SOON ENDS IN DEATH ; AND
TIME WILL SOON BE SWALLOWED UP IN VAST ETERNITY.

This dial belongs to And. Cowan.

T. W. fecit. 1825.

In the grounds of Amisfield, near Lochmaben, Dumfriesshire.

168. DAY UNTO DAY UTTERETH SPEECH, AND NIGHT UNTO NIGHT
SHOWETH KNOWLEDGE. 1856.

Psalm xix. 2. The dial was made by the late Henry Grange, Esq., of Grange, Barrowstonness, Linlithgowshire.

169. DAYS AND AGES ARE BUT AS A SHADOW OF THE ETERNAL ; BUT
THEIR USE, O MAN, DETERMINES THY FUTURE WEAL OR WOE.

ἙΛΕΥΣΟΝΤΑΙ ΓΑΡ ἩΜΕΡΑΙ Κ. Τ. Α.

For the days shall come, etc.

These mottoes, with No. 1008, were formerly on the keep of Carlisle Castle, just above the magazine, but are now obliterated. When last examined, in 1882, the dial was a wreck, and the last remains of it have now probably disappeared.

170. DE L'UNIVERS JE RÉGLE LES DESTINS. 1838. *I rule the destinies of the universe.*

At Castelnaudary (Aude); and in a slightly varied form at Cordes (Tarn).

171. DE NOTRE VIE ET DU SOLEIL JE MESURE LA MARCHÉ. *I measure alike the course of life and the progress of the sun.*

At Rabastens d'Albigeois (Tarn).

172. DEATHE JUDGMENT HEAVEN HELL
UPON THIS MOMENT DEPENS ETERNITIE.
O ETERNITIE O ETERNITIE O ETERNITIE. 1658.

The foregoing is inscribed in several lines on what is called "Sir Francis Howard's Dial," at Corby Castle, which stands on the lawn, before the house. The dial is horizontal; the stone pedestal consists of a twisted column with four shields at the top, on one of which the above words are carved; another shows the emblems of the Passion in relief, namely: St. Peter's cock, the scourge, the crown of thorns, the cross, and the five wounds (the hands, feet and heart being represented); the seamless coat, and below it, the dice, the manacles in the form of I H S., and the hammer and nails. On another shield are the family initials, and on the fourth the arms of Howard impaling Widdrington. Sir Francis Howard, who set up this dial, was the second son of Lord William Howard (a son of Thomas, fourth Duke of Norfolk), who was the "Belted Will Howard" of Sir Walter Scott's "Lay of the Last Minstrel."



"Belted Will Howard is marching here,
And hot Lord Dacre with many a spear."

Sir Francis Howard was born August 29th, 1588, and died in May, 1680. He first married Margaret, daughter of John Preston, Esq., of the manor of Furness; and secondly, Mary, daughter of Sir Henry Widdrington of Widdrington Castle, Northumberland.

Round the base of the dial-column the following inscription has been cut. "Re-mounted by Henry Howard of Corby Castle, A.D. MDCCCLII."

173. DEBEMUR MORTI NOS NOSTRAQUE. *We and ours are a debt owed to death.*

From Horace, "Ars Poetica," v. 63. On a house at Ivry.

174. DEFECERUNT SICUT FUMUS DIES NOSTRI. *Our days are consumed like smoke* (Ps. cii. 3).

Recorded in "Bulletin Monumental." 1883.

175. DEFICIT SOL, NEMO RESPICIT. 15 Maggio, 1839. *None turns to look when clouds the sun conceal.*

Seen in 1860 on the wall of the Italian Custom House at Fornasette, between Lugano and Luino, together with No. 224.

176. DEL CERCHIO IL PIANO ABBRACCIA UN PUNTO SOLO
DEL TEMPO IMAO ALL UOM, CHE FUGGE A VOLO.

We cannot give a satisfactory translation of this motto, although the literal meaning of each word is quite simple. Possibly there was some emblem attached to the dial of which we have not been told, and which would explain the text. It is on the church at Tesero, Val Fiemme, Tyrol.

177. DELLA VITA IL CAMMIN L'ASTRO MAGGIORE
SEGNA VELOCE AL GIUSTO E AL PECCATORE.
*The glorious orb of day with breathless speed
To good and bad alike the way of life doth read.*

Copied in 1867, with No. 331, from the wall of the former convent della Quiete, afterwards a girls' school, near Florence.

178. DELL' ORBE IN LINEE MIRO
IL DIURNO E L'ANNUO GIRO.
*O, Sun, in sable hues I trace
Thy daily and thy yearly race.*

On a church at Varazze, Riviera di Levante.

179. DEO SOLI GLORIA. *To God alone be glory.*
On a church at Sierre, in the Canton du Valais.

180. DEPUIS LE SOLEIL
JUSQU'À L'OMBRE.
Voi 1815 ron.

From sunshine to shadow.

This dial is engraved on a slab of green marble let into the wall above the door of the Maison Voiron, in the village of Le Rosier, Val des Prés (Hautes Alpes). Near it is a stone with the letters vv. H. M. 1809. The united Vs stand for Viva Viva. The custom of introducing these letters into inscriptions came from Italy, and was much practised about the time of the Revolution. Inscriptions such as vv *La nation*, vv *La loi*, etc., were often to be seen.

181. DER MENSCH LEBT SO DAHIN UND NIMT ES NICHT IN ACHT,
DAS JEDE STUND SEIN LEBEN KÜRZER MACHT.

*Man heedless lives, nor takes to thought,
Each hour life's end hath nearer brought.*

Copied in 1873 from a dial painted on the wall of a small village inn (the sign of the "Dancing Bear") at Graf, near Landeck, Tyrol. On each side of the dial are rough frescoes, one of St. Florian, with the inscription :

HEILIGE FLORIAN BESCHÜTZE DIESES HAUS,
UND LÖSCH DIE FEUERS FLÄME AUS.

*St. Florian, guard this house about,
And put the flames of fire out.*

And the other of the Blessed Virgin :

O MUTTER SEY MIT DEINEM SEGEN
STEH IN DIESEM HAUS ZUGEN.

*Mother, with thy blessing bide
In this house at every tide.*

182.

DER SPÖTER SOL NICHTS VERACHTEN
DEN ER KANS BESSER MACHEN.

Hans Dvcher, N.R.B.G. (Nuremberg).

The scorner should not despise anything unless he can do it better himself.

This motto is one which was frequently inscribed on his works by Hans Ducher or Tucher. He was a dial-maker at Nuremberg in the sixteenth century; and many of the ivory compass dials met with in museums are marked with his name. The motto is on two specimens in the British Museum: a small silvered clock with sun-dials on the sides; and also on a cube-shaped dial. It is on a portable dial in the possession of Mr. Lewis Evans with No. 1651 and date 1578; and on an ivory cube mounted in brass in the museum at Nuremberg, with No. 1650. Mr. Evans' dial also bears a version of No. 1650, referring to the compass.

183.

DER TOD IST GWISS, UNGWISS DER TAG,
VIELLEICHT DASS DEINE STUNDE SEIN MAG;
DARUM THU' RECHT, UND DUENKT DABEI,
DASS JEDE STUNDE LETZTE SEI.

*Death certain is, its day unknown,
This very hour may be its own;
Therefore do right, and hold this fast,
That every hour may be thy last.*

The sense of the second line is doubtful; but the probable meaning is expressed above. The dial was on Herr Weber's house at Schwyz, in 1865, when a sketch of it was taken. The painting represented the Blessed Virgin with the Child in her lap, her head encircled with stars. The gnomon and numerals were below these figures; some of the words of the inscription were ill-spelt and imperfect.

184. DETEGO TEGENDO. *By covering I discover.*

Copied in 1860 from a house in the Rue d'Antibes, Cannes.

185. DEUS ADEST LABORANTIBUS. *God stands by those who labour.*

At Hermit Hill, Wortley, near Sheffield; also on the parish church at Leighton Buzzard. See Nos. 101, 249, 1582.

186. DEUS EST LUMEN LUMINIS. *God is the light of light.*

On the engraved table of "Horologiographia Optica," by Sylvanus Morgan, published 1652.

187. DEUS HABET HORAS ET MORAS. *God has times and delays.*

This beautiful motto has been said to have been seen on a dial, and has been attributed to one in fiction, but where it exists in fact we know not.

188. DEUS MIHI LUX. *God is light to me.*

At Marrington Hall, Shropshire. See No. 1394.

This was probably the motto originally on the old hall at Gainsborough, quoted in the history of Gainsborough, of which only "Deus mi—" with No. 1536 and "W. H. 1600," was legible. The dial is still visible on the plaster of the south wing, but is quite a wreck. W. H. probably stands for William Hickman, knighted by James I., whose family is now represented by Sir Hickman Bacon, Bart.

189. DEUS MOVET, UMBRA DOCET. *God moveth (the shadow), the shadow telleth it.*

With No. 345 on a slate dial of French make, dated 1631.

190. DEVS MOVET, VMBRA DOCET. CERNIS QVA VIVIS, QVA MORIERE LATET.

Confectum tertio calendas iunii An. Dñi (date lost).

God moves (the shadow), the shadow teaches.

Thou seest (the hour) in which thou livest, that wherein thou shalt die is hidden.

On a slate dial, now in the museum at Vannes (Brittany).

It bears the signs of the Zodiac over the face, and a crown with two blank shields. At the corners are four figures, two of which hold swords. It was the gift of M. Guyot-Jomard.

191. DEUS POTENS ET . . . SOLEM SUUM
ORIRI FACIT SUPER BONOS ET MALOS.

Powerful is God . . . and He maketh His sun to rise upon the evil and the good.

From St. Matthew, v. 45; on the church at Landry, Savoy.

192. DI FERRO È LO STILO; D'ORO È IL TEMPO.
AL PAR DELL' OMBRA PASSA E PIÙ NON TORNA.

*The style is of iron; time is golden,
It passes by like a shadow, and returns not again.*

On a house at Ceppomorelli. The first line is also at Pie Cavallo, Val d'Oropa, near Biella; and, slightly varied, at Cambiano, Piedmont.

193. DIDST THOU NOT SEE THE LORD, HOW HE EXTENDED THY SHADOW.

Is the translation of a verse of the Koran, which is inscribed on a dial erected by the astronomer Ali Kushaji, near the mosque of Muhammed II., by the gate of the Dyers at Constantinople.

194. DIE AUGEN DES HERRN SIND HELLER
ALS DIE SONNENSTRAHLEN.

The eyes of the Lord are brighter than sunbeams.

On the wall of a church at Hallstadt.

195. DIE DIES TRUDITUR. *One day presses hard upon another.*

John Hull. 1704.

Engraved on the dial plate, which is set upon a pedestal of red sandstone in Bispham Churchyard. In Colonel Fishwick's "History of Bispham" it is stated that the pedestal is probably the base of an ancient stone cross. The initials "R.B." are carved upon one side of the pedestal, and on the other the letters "J. H." appear, which evidently are the initials of John Hull, the probable donor of the dial. He is buried in the churchyard, and the inscription on his gravestone runs in this quaint fashion:

Here lye
the B
ody of Jo
hn Hull
the son of Mathe
w Hull of
Lyttle Bisph
1709.

196. 1619
DIE JETZÛGE STUND UND DAS ZÛTLICHE GLUCK
SCHLICHT HIN IN EINEM AUGENBLICK. 1762.

*The present hour and this world's cheer
Are in a moment gone from here.*

On an Inn, "zu den drei Eidgenossen" in the "Ober Bälliz" at Thun, Switzerland. The dial is large, and painted on the wall, the hours are marked by Roman numerals.

197. DIE SONNE SCHEINET ÜBERALL. *The sun shines everywhere.*

In a garden on the banks of the Lake of Lugano.

198. DIE ZEIT DIE STUND WIE AUCH DER TAG LAUFT SCHNEELL DAHIN
DRUM O MËSCH WER DU BIST BEDENKE DEINE SÜND
GLEICH DEN BLUMEN FELT DAHIN UNSER SÜNDIGS LABEN.

*The time the hour and eke the day, swiftly pass away :
Therefore O man, whoe'er thou art consider thou thy sins,
Like the flowers fades away our sinful life.*

On a perpetual calendar of brass, in Mr. L. Evans's collection.

199. DIEM DIMETIOR UMBRA. *I measure out the day by my shadow.*

On Maison Renil, Albi (Tarn).

200. DIES AFFERT MULTA. *The day brings with it many things.*

This inscription was cut on a dial, the work of an ingenious and well educated man for his time, named Daniel Rose, who placed it over the doorway of his cottage house called "Shutts," near Ashopton in Derbyshire. He was the clerk of Derwent Chapel, and was also a schoolmaster and dial maker. It is said that he carved the dials in a soft slate stone during school-time with a penknife: the dials both in Derwent Churchyard (No. 749) and at the Hall (Nos. 24, 1536) are specimens of his skill.

201. DIES DIEM DOCET : DISCE. *One day telleth another, learn.*

A block of stone with four dial faces placed over the porch of the old church at Barmston near Bridlington, Yorkshire, was thus inscribed. The letters, when sketched some thirty years ago, were much defaced. The motto was probably suggested by Ps. xix. 2. "One day telleth another," or, as in the Bible version, "Day unto day uttereth speech."

202. DIES DIMETIOR UMBRIS. *I measure out the days by the shadows.*

Given in "Notizie Gnomoniche." It is also on a dial at Tarascon, but is imperfectly spelt.

203. DIES EJUS SICUT UMBRA PRÆTEREUNT. 1863. *His time passeth away like a shadow.*—Ps. cxliv. 4.

On a church by the Grand Canal, Venice: on the Ecole des Beaux Arts, Paris (formerly the Cloister of the Convent of the "Petits Augustins").

"La perte de la vie est imperceptible, c'est l'aiguille du cadran que nous ne voyons pas aller."—*Mme. de Sévigné.*

204. DIES FUGIT SICUT UMBRA. *The day fleeth like a shadow.*

At Cluny (Saône et Loire); and as DIES SICUT UMBRA FUGIT at Niozelle.

205. DIES HOMINIS QUASI UMBRA SUPER TERRAM. *The days of man upon earth are as a shadow.*

Maison St. Pierre, Bretmoux (Lot).

206. DIES HOMINIS SIC PRÆTEREUNT. 1643. *The days of man thus pass away.*

On the Church of Rieux, near Vannes. The dial is of slate, with the arms of the Comtes de Rieux engraved upon it.

207. DIES HOMINIS SICUT UMBRA PRÆTEREUNT. 1590. *The days of man pass away like a shadow.*

On the church of St. Etienne at Epineuil (Yonne); and on an ivory portarium in the British Museum, marked "Hans Troschel Nuremberg faciebat MDCXXIII"; also on a similar one in the Musée Cluny, Paris, by the same maker, dated 1627.

208. DIES MEI SICUT UMBRA DECLINAVERUNT. *My days are gone like a shadow* (Ps. cii. 11).

Copied in 1866 from a dial traced on the marble wall of the Capella Emiliana, at San Michele in Isola, near Venice. The chapel was built by Bergamasco in 1530, and has been stigmatized by Mr. Ruskin as "a beehive set on a low hexagonal tower, with dashes of stonework about its windows, like the flourishes of an idle penman." The motto has a special fitness, as the building stands near the shore where the Venetians land their dead for interment in this "quiet sleeping ground in the midst of the sea."

The same verse is on the Roman Catholic Church at Langen Schwalbach; at the hamlet of Arcisses, St. Chef (Isère), with date 1787; and at Charavines (Isère). The first four words are on the Ursuline Convent at Nant (Aveyron).

209. DIES NOSTRI QUASI UMBRA SUPER TERRAM ET NULLA EST MORA. *Our days on the earth are as a shadow, and there is none abiding* (1 Chron. xxix. 15).

In the cloister of the Capuchin Convent at Amalfi, afterwards used as an hotel, and in 1899 destroyed by a landslip.

The first four words with "J. R., 1685," are at Haresfield Court, Gloucestershire. In the centre of the motto there is a complicated cipher giving the name of Mr. John Rogers, and the gnomon springs from a shield which bears his arms. He was the owner of the Court, and put up a dial on the church, and a clock, in 1692. The motto may also be read at Riva, Lago di Garda; and at Padua.

210. DIES NOSTRI SICUT UMBRA. *Our days are as a shadow.*

At Fiesole; at Duccio; and at Grasse.

211. DIES SERENUS,
SERENUS SIT ANIMUS.

*Sunny be the day,
Sunny thy spirit.*

On a west declining dial at Lawford Hall, near Manningtree. The motto is in the form of a scroll, painted on stucco; above it is the date 1583, and below 1867. Edward Waldegrave was living at Lawford Hall in 1583, and no doubt he erected the dial. The property remained in the possession of his family until 1621, when it passed into other hands. In 1867 the house was bought by Francis Nichols, Esq., and he had the dial restored exactly in its original form.

212. HIVER—PRINTEMPS
DIEU DIT QU'IL AIT DANS LE CIEL DES ASTRES QUI
MARQUENT LES ANNÉES, LES SAISONS, LES MOIS,
LES FÊTES ET DES JOURS DE L'ANNÉE.

ÉTÉ—AUTOMNE

LE SOLEIL ET LA LUNE FONT CE QU'IL LEUR A ÉTÉ
COMMANDÉ, ET NOUS TRANSGRESSONS LA LOI DU SEIGNEUR.

God saith that He hath in the heavens, stars which mark the years, the seasons, the months, the holy days, and days of the year.

The sun and moon do that which has been commanded them, but we transgress the law of the Lord.

The above inscriptions are on two dials on a school belonging to the Frères Chrétiens at Issy, near Paris. A Latin version of the second is at Notre Dame, St. Affrique (Aveyron). See No. 1232.

213. DIEU PROTÈGE (*sic*) LA FRANCE. *God protect France.*
At Charnècles (Isère).

214. DIEU QUI (CONDUIT DANS SA) LONGUE CARRIÈRE
CET ASTRE ÉTINCELANT
(REND LE) MATIN PLUS DOUX PAR SA CLARTÉ PREMIÈRE
ET SON MIDI BRULANT.
SOLI DEO GLORIA 1835.

God Who guides the glittering sun in its long course, makes morning sweeter by its first radiance, and likewise makes the burning noontide.

At La Croiza (Hautes Alpes).

215. DIEU SOIT BÉNI. 1873. *Blessed be God.*
At Brunissard (Hautes Alpes); and St. Clair (Isère).

216. DIGITUS DEI DUCET ME. 1859. *The finger of God will lead me.*
With No. 1065, on the church, Villeneuve sur Vère (Tarn).

217. DILIGE DOMINUM DEUM TOTO CORDE. *Love the Lord thy God with all thy heart* (Deut. vi. 5).

At Moccas Court. See No. 1469.

218. DILIGENTIBUS PATRIAM FAUSTA. *Happy this hour to them that love their country.*

At Eyguières (Bouches du Rhône).

219. DILIGITE DILIGENTIAM IN MUNERE VESTRO. *Love diligence in your office.*

On the hospital at Milan.

220. DISCE BENE VIVERE ET MORI. *Learn to live and die well.*

"Erected by the Corporation of Conway. Robert Wynne J^r Esq. Alderman; Hugh Williams & John Nuttall Bailiffs. 1761."

On a pedestal dial in Conway churchyard.

221. DISCE DIES NUMERARE TUOS. *Learn to number thy days.*

On an old school-house at Wortley, near Sheffield; at Dirtcar House, Wakefield, with No. 1172; and also on a large vertical stone dial in the kitchen garden at Barnes Hall, near Sheffield. The date upon this dial is 1738, and without doubt it was the handiwork of a very remarkable man, Samuel Walker, of Masbrough. He was of humble origin, born in the parish of Ecclesfield, and began life as a parish schoolmaster and a dial-maker. When fixing this identical dial at Barnes Hall, then occupied by Sir William Horton, that gentleman remarked to a friend, "Sam Walker will one day ride in his carriage." The words were prophetic, for in a few years Walker had laid the foundation of the largest ironworks in the country at Masbrough, near Rotherham, and his descendants have since occupied and still maintain a good position as country gentlemen. See No. 248.



BARNES HALL, SHEFFIELD.

The first three words of this motto, with the date 1744, are on the wall of Arundel Church, Sussex.

222. DISCE MORI MUNDO. *Learn to die to the world.*

Seen on Batley church porch, Yorkshire, in 1879.

223. DISCITE JUSTITIAM, MONITI. *Learn justice, being warned.*

This motto, from Virgil, *Æn.* vi. 620, is on a dial in the Middle Temple.

Professor Beckmann, in his "History of Inventions and Discoveries," says: "On the side of New Palace Yard, which is opposite

to Westminster Hall, and in the second pediment of the new buildings from the Thames, a dial is inserted with this remarkable motto upon it: *Discite justitiam moniti*, which seems most clearly to relate to the fine imposed on Radulphus de Hengham being applied to the paying for a clock." The professor proceeds to state that the dial was fixed exactly where Strype describes the clock-house to have stood.

Blackstone tells the well-known story, how Chief Justice Ralph Hengham—"a very learned judge to whom we are obliged for two excellent treatises of practice"—out of mere compassion for a very poor man, altered a fine of 13s. 4d. to 6s. 8d., and was consequently fined 800 marks by King Edward I., which were expended in building a clock-house to regulate the sittings of the Courts. This sovereign, who has been styled the Justinian of England, did so much to reform the Courts, that Sir Matthew Hale says, "that more was done in the first thirteen years of his reign to settle and establish the distributive justice of the kingdom, than in all the ages since that time put together." We may consider that the present clock tower at Westminster, from which "Big Ben" gives forth his loud utterances, is a more than sufficient substitute for that with which Judge Hengham's name is associated.

224. DISEGNA LE ORE SENZA FAR ROMORE. *A silent sign denotes the hour.*

Seen on the Italian Custom House at Fornasette, in 1866, with No. 175. Adopted in 1899 for a dial erected by George W. Sidebotham, Esq., M.D., at Broughton Astley Hall, Leicestershire. He has designed and calculated the dial, and inclined the plate so as to allow the gnomon, which is at right angles to it, to correspond with the latitude. The dial faces north, and XII (noon) is at the lowest point. In the outer circle, opposite the names indicating degrees of longitude, appear the names of a number of places, most of which were visited by Dr. and Mrs. Sidebotham during a recent tour round the world. The chief interest of the dial is this, that if at any given time they wish to know what o'clock it is at some other place named in the circle, all that need be done is to rotate the dial until the named place reaches the zero mark, when the shadow gives the required hour.

225. DIVIDIT UMBRA DIEM. *The shadow divides the day.*
Given in "Notizie Gnomoniche."

226. DO, SI SOL. *I give (the hour) if the sun (does).*
On the façade of the Château d'Agnelas (Isère).

227. DO TO-DAY'S WORK TO-DAY. 1875.

Placed on a dial at Golder's Hill, Hampstead, by the late Sir Spencer Wells, Bart. In connection with this motto we may recall a saying of the Duke of Wellington recorded by Earl Stanhope: "We

talked," he writes, "of Gurwood's publication (the 'Wellington Dispatches') and I expressed my astonishment that the Duke should have been able to write so many letters in the midst of active operations." He said: "My rule has always been to do the business of the day in the day."¹

228. DOCE, DISCE, AUT DISCEDE.
*Teach or learn
 Or out you turn.*

On the school porch at Shepey Magna, Leicestershire. Comp. No. 81.

229. DOCET UMBRA. 1700. *The shadow teaches.*

A large vertical dial of stone on the Dutch Church in Austin Friars, London, bears this motto. This Church, founded for the Friars Eremites of St. Augustine, was after the Dissolution granted by Edward VI. to the fugitives from the Netherlands, A.D. 1550. For a few months the church was used both by the French and Dutch congregations, but the number of refugees increased so greatly that another building was given for the use of the French. Both churches were closed during the reign of Mary, but reopened when Elizabeth came to the throne, and Austin Friars has remained in the possession of the Dutch ever since. The motto has a singular appropriateness, but the church is now so surrounded by high offices that neither the building nor the dial can be seen to advantage, and the motto is scarcely legible.



230. DOMINE, DOCE NOS RECTE COMPUTARE MOMENTA NOSTRA, ET HABERE COR APPLICATUM AD SAPIENTIAM. *Lord, teach us to number our days rightly, and to apply our hearts unto wisdom.*—Psalm xc. 14.

This text appears with two other mottoes, Nos. 247, 394, on a beautiful engraving of a portable cross-dial in Johann Gaupp's "Tabulæ Gnomonicae," 1708.

231. DOMINE, USQUE AD VESPERAM MANES. *Lord, thou remainest until evening.*

Formerly on a country-house at Ivry.

232. DOMINUS ILLUMINATIO MEA. *The Lord is my light.*—Ps. xxvi. 1.

The motto of the University of Oxford. It has been inscribed with No. 1200, by George Yarding, Esq., on a double semi-cylindrical dial which is on a pedestal in his garden at Fellside, Snaresbrook. The dial was brought away in 1828 from an old house, and was probably

¹ "Conversations with the Duke of Wellington," Murray, 1889.

constructed by a scientific man who had lived there. See Illustration, p. 105. The above text was formerly on a dial in the garden of the Petits Pères, Place des Victoires, Paris.

233. DONA PRÆSENTIS CAPE LÆTUS HORÆ. *Gladly accept the gifts of the present hour.*

From Horace, Odes, Bk. iii. 8, 27. This was formerly with No. 116 on the convent of the Grands Augustins at Paris, and is still on the Franciscan convent at Cimiez, Nice, with others; see Nos. 598, 1111, 1463, 1475, 1618; also at Gières (Isère); and at the Hameau de Chatelard à Réaumont (Isère); and in the garden of the Hospital of St. Jacques at Besançon (see No. 75).

234. DONEC DIES. *Until the day.*

On a dial erected by the late Rev. Samuel J. Bowles in his rectory garden at Beaconsfield, Bucks. The motto was possibly abbreviated from Canticles, ii. 17: *Donec aspiet dies et inclinetur umbræ.*

235. DOUZE HEURES MESURENT LE JOUR,
QUELLE FINIRA TON SÉJOUR?
*Twelve hours make the day,
Which will end your stay?*

On a dial in the Musée Lorrain, Bar-le-Duc. See No. 1006.

236. DUBIA CUNCTIS ULTIMA MULTIS
CUNCTIS, SI SAPIAS, HORIS VIGIL, ESTO VIATOR,
EXTREMAMQUE TIBI SEMPER ADESSE PUTES.

No man knoweth what this hour may bring, to many a man it is his last; Traveller, if thou be wise be watchful at all hours, and ever think thy last at hand.

On a dial which is now in the Musée lapidaire at Beaune. There is a further inscription, see No. 1007, and the date 1786.

237. DUBIA MULTIS CERTA OMNIBUS. *Doubtful to many, certain to all.*

At the Lycée, formerly a Jesuit college, at Cahors; also at Aups (Var).

238. DUBIA OMNIBUS ULTIMA MULTIS. *Doubtful to all, the last to many.*

Copied in 1861, at Grasse; and in 1869 from the church at Cambo (Basses Pyrénées).

239. DUM FUGIT UMBRA, QUIESCO. *While the shadow flees, I am at rest.*

Inscribed by M. de Fieubet, counsellor of state to Louis XIV., on a dial on his country house. See No. 975. The motto was formerly with No. 233 on the convent of the Grands Augustins, Paris; and is found at Le Poët, Vallouise (Hautes Alpes).

240. DUM LICET UTERE. *While time is given, use it.*

Is on a dial in the courtyard of the old Castle at Stazzano, near Serravalle Scrivia, in the province of Alessandria, North Italy. The castle is now a priests' school. The expression is used by Seneca :

"Quis sapiens bono
Confidat fragili? dum licet utere :
Tempus te tacitum subruet, horaque
Semper praeteritâ deterior subit."

SENECA, *Hippol.* 775.

241. DUM LICET ET VEROS ETIAM NUNC EDITIS ANNOS
DISCITE EUNT ANNI MORE FLUENTIS AQUÆ.—1623, II. Dec.

*While time is granted, and even now ye set forth
Years that are real, Learn ye, years pass by like running water.*

At Kenmure Castle. See No. 49.

242. DUM LOQUIMUR FUGERIT INVIDA ÆTAS,
CARPE DIEM QUAM MINIME CREDULA POSTERO.

*While we speak the envious time will have fled,
Seize the present day, and put but little faith in the next.*

Over the door of Dingley Rectory, Northants. The dial is dated 1703; it records the hours from II to VII only. There is a second dial-face placed at right-angles on the side of the house, and this gives the morning hours, but it has no motto.

243. DUM LUCEM HABETIS, CREDITE IN LUCEM. *While ye have light, believe in the light.*—St. John, xii. 36.

Given in "Notizie Gnomoniche."

244. DUM NOS MORAMUR, MENSES ANNOSQUE DIESQUE
OBREPIT TACITO MORS INOPINA GRADU,
QUÆ FERET ÆTERNUMVE DIEM NOCTEMVE PROFUNDAM,
SÆPIUS HÆC NOBIS EST MEDITANDA DIES.

*While we pursue our folly, death unawares with silent step creeps on,
devouring days and months and years : death, which will bring us either
eternal day or the depths of night : oft should we think upon that day.*

On an engraving of a sun-dial in Ritter's "Speculum Solis," 1652.

245. DUM PETIS, ILLA FUGIT,
QUID ASPICIS, FUGIT.

*While thou seekest to know the hour, it has flown ;
What beholdest thou ?—it is gone.*

On a house in the Rue de Lille, Paris.

246. DUM PROFICIT D(EFICI)T. *While (time) gains, it loses.*

Seen in 1861 in the cloisters of the Cathedral at Chambéry. The

reader may amuse himself by supplying the illegible word to his own taste. A friend suggests deficit, which seems most probable. See No. 847.

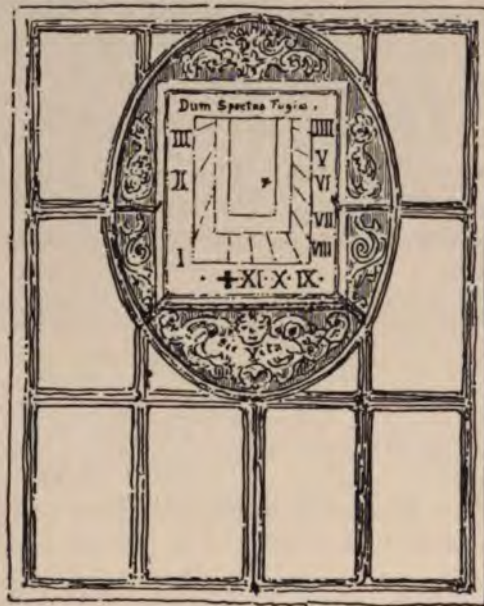
247. DUM SOL NON LUCET OPUS EST PATIENTIA. *Thou must be patient while the sun shines not.*

This, with Nos. 230, 394, is on the engraving of a portable cross-dial in Johann Gaupp's "Tabulæ Gnomonicæ," 1708.

248. DUM SPECTAS FUGIO.
SIC VITA.

Whilst thou lookest I fly; so doth life.

In a three-sided bay-window over a shop in the High Street, Marl-



borough, is a handsomely illuminated glass dial of oval shape, which nearly occupies four of the twelve panes that compose the projecting centre of the window, and which is inscribed with this motto. A golden scroll on a red ground surrounds the dial face, in the centre of which is a fly, so beautifully depicted that you can hardly believe it is not a real insect incorporated in the glass as in amber, for it is not perceptible to the touch. There was no gnomon when the sketch was taken (*circa* 1863), for singularly enough it had been destroyed by lightning. At Winchester College there is also the fly in a similar glass dial; and likewise at Lacock Abbey, North Wilts. In

Leadbetter's "Mechanick Dialling" many of the plates of dials have a fly figured; it is supposed that the introduction of the fly is meant for a punning suggestion of the thought, "May (the hours) fly."

The dial at Marlborough attracted the attention of Messrs Britton and Brayley, and is mentioned by them in the "Beauties of England," vol. i. (1801), as are two similar window-dials in the Rectory, North-hill, Bedfordshire. These had also been noticed by Mr. Arthur Young, in his "Six Weeks Tour," and he gave particular praise to the painting of the fly. The dials were of green glass; on one the fly was represented with two cherries before it, and the wings painted on one side of the glass while the body and legs were on the other side, so as to deceive

the spectator. The dials bore the mottoes *Dum spectas fugio*, and *Sic transit gloria mundi*, and on one of them, "John Oliver, fecit 1664." As the rectory at North-hill had lately been rebuilt, and the paintings were described by Mr. Britton as lying useless, it is probable that they no longer exist.

Dum spectas fugio is on a window-dial described in the "Strand Magazine," in 1892, as being in Mr. E. P. Johnson's office, Derby. A bird and a fly are in the centre. It was made in 1888 by Frederick Drake, Glazier, Exeter, and copied from one taken out of an old Devonshire manor house. The same motto, with the date 1739, was on one of four vertical dials which surmounted a short column standing on a step in the garden of "The Holmes," Rotherham. On the step is inscribed the name of the maker, Sam^l. Walker, fecit. See No. 221.

Dum spectas fugio may be read on a dial which adorns an old gabled entrance to one of the canons' houses at Exeter. It is supported by a small stone figure, and is placed between two mullioned windows, above which is a medallion of Queen Elizabeth. Over the arched doorway is a coat of arms, and the words "Vincit Veritas." The motto is inscribed on a dial in the churchyard of Cranbrook, Kent, with "John Hague and Ellis Troughton, 1855; on the farmhouse of Greenbury in the parish of Scorton, Yorkshire, with "J. Fawcitt" 1751, the "i" in *fugio* being omitted by mistake. It was formerly on the market house at King's Lynn, with Nos. 745, 1109, 1167; and is still, we hope, at Ripley, in Surrey (see No. 1002); and Thorp Perrow, with No. 1396. At Kirkby in Cleveland, a dial dated 1815 once bore it, but in 1887 the motto was found to be almost obliterated.

Dum spectas fugio has also been read on Ingleton Church, Yorkshire; and on the old tower of Willesden Church, with the date 1736.

249. DUM SPECTAS FUGIT. *Whilst thou art looking (the hour) is flying.*

Formerly on Felkirk Church, Yorkshire, dated 1769, but in 1884 the dial had fallen to the ground in a gale. The motto is on the parish church, Leighton Buzzard (see No. 101); and on St. Patrick's Church, Isle of Man (see No. 864). It is also on Heighington Church, co. Durham, with the additional word *hora*; and on a house at Walsingham ending with *carpe diem*.

250. DUM TEMPUS HABEMUS OPEREMUR BONUM. *While we have time let us do good.*—Gal. vi. 10.

On the Convent of the Annunziata, Florence; and with No. 1450 in the courtyard of the Evêché, Blois. Also on the south dial of the pillar at Tytherton Kellaways, Wilts (see No. 1619), with the following paraphrase, composed by the Rev. W. L. Bowles:

Life steals away; O man, this hour is lent thee,
Patiently work the work of Him who sent thee.

251. DUM UMBRA FUGIT HOMO TRANSIT ET DEUS EST. *While the shadow flees, man passes, and God is.*

On the church of La Ferté Bernard.

252. DURENT IN TRISTITIA VOLENT IN LÆTITIA.

In sadness let them long endure, in gladness let them fly.

On a country house at Bas Vacon.

253. E PERDUTTO TUTTO IL TEMPO CHE A NON AMAR DIO SI SPENDE.

All that time is lost which is not spent in loving God.

Maison de Segrais, near Rives (Isère).

254. ECCE ERAT VALDE BONUM. *Behold, it was very good.*

On the engraved title-page of "Horologiographia Optica," by Sylvanus Morgan, 1652.

255. ECCE MENSURABILES POSUISTI DIES MEOS. 1801. *Behold, thou hast made my days as it were a span long.*—Psalm xxxix. 6.

On a chapel at Montagny, Savoy.

256. ECCO UN NULLA, O MORTAL, CHIAMAR TI PUOI,
MENTRE LA MORTE ALTIERA, E'L TEMPO EDACE
MISURANO CON L'OMBRA I GIORNO TUOI.—*Anon.*

*Well, mortal, may'st thou call thyself a thing of nought,
While lordly Death, and Time that eateth all,
Measure thy span by fleeting shadows wrought.*

Given in "Notizie Gnomoniche" as a suitable motto for a dial on which is painted, "il Tempo e la Morte con lo stilo in mano rappresentante uno scetro."

257. ECCO DA DEBOL FIL SEGNATO IL TEMPO. *See what slender thread has marked the hour.*

Casa Cecco, Via Pio Corsi, at Nizza, Monferrato.

258. EDWARDUS FOVET UT SOL. *Edward, beneficent as the sun.*

Quoted by Charles Leadbetter in his "Mechanick Dialling," 1756, as on Christ's Hospital, and referring to Edward VI., the founder of the school.

259. EGO CERTAS, LILIA FAUSTAS. *I make the hours sure, the lilies make them fortunate.*

At Camurat (Aude), on a dial bearing the arms of France.

260. EGO REDIBO, TU NUNQUAM. *I shall return, thou never.*

On the church of St. John the Baptist, Erith.

261. EHEU, FUGACES. *Alas, how fleeting.*

A quotation from Horace, Carm. II. xiv. 1 :

"Eheu, fugaces, Postume, Postume, labuntur anni."

At Sedbury Hall, near Richmond, Yorkshire, there is a horizontal dial with stone pedestal attached to the sill of the drawing-room window, with this touching motto engraved upon it. The same words are found on the plate of a dial in the rectory garden, Copgrove, Yorkshire, with "Goodall, Tadcaster, fecit 1846."

Also (as Dr. Doran tells us in his "Life of the Rev. Dr. Young"), the author of the "Night Thoughts" set up a dial in the rectory garden at Welwyn, Hertfordshire, with the motto, "Eheu, fugaces," and a few nights afterwards thieves entered the garden, and proved the wisdom of the poet's choice of a motto by carrying the dial away.

On the walls of the entrance tower of Farnham Castle, the palace of the bishops of Winchester, there are two dials which formerly bore the inscription, "Eheu, fugaces labuntur anni." Other mottoes, more appropriate to an episcopal residence, have been substituted, as will be shown hereafter (see No. 987).

The word "Eheu" could be traced in 1890 on a dial on Elwick Church, co. Durham; probably "fugaces" had once completed the inscription.

262. EHEU! DUM LOQUIMUR FUGIT IRREPARABILE TEMPUS. *Alas! while we speak, irretrievable time flies.*

In the cloisters of the Capuchin convent at Velletri.

263. EHEU! QUAM FESTINAT DIES. 1789. *Alas! how the day flies onward.*

At Les Avenières (Isère).

264. ELAPSAS SIGNAT HORAS. *It marks the passing of the hours.*

On an eighteenth century dial at Chambéry, on the Archevêché.

265. ELeCTA Vt soL BEAT OR-BEM SPLeNDORE. *Bright as the Sun, she blesseth the earth with brightness.*

ROSENHEIM.

STELLT DEINS LEBENS TAG ZU DIENST MARIA EIN,
SO WIRD DEIN LETZTE STUND IN TOD DIE BESTE SEIN.

*Give the day of thy life to do Mary's behest,
So will thy last hour in death be the best.*

These mottoes were read at Rosenheim, between 1860-70, one

above and one below a fresco of the Blessed Virgin, who is represented as the crowned Queen of Heaven, against a background of rays, and with clouds beneath her feet. A scroll above bears the Latin line, in which there is a chronogram giving the date MDCLLV = 1755. The hour numerals and the German lines are on a curling double scroll below.

266. ELLES COULENT RAPIDEMENT POUR CEUX QUI SONT DANS LA JOIE.
L'an iv. *Days pass quickly for those who are happy.*

At Izeaux (Isère). The date is year 4 of the Republic = 1797.

267. ELLE FUIT, HÉLAS! 1801. *Alas! it flies.*

At Plampinet; also at Sachat (dated 1813), both in Dep. Hautes Alpes.

268. ELLE RÉGLE LA REPOS ET L'ACTION,
SURTOUT ELLE APPELLE LA RÉFLEXION. 1840.

*It governs rest and action,
Above all it causes reflection.*

At Villard St. Pancrace (Hautes Alpes).

269. EN ME REGARDANT, PENSE OÙ TU VAS,
ET D'OÙ TU VIENS CAR LA MORT TE SUIT PAS À PAS.
1841. Z. A. F.

*Remember ye that mark my face
That Death's behind you pace by pace;
Whence are ye come, ye do not know
Nor whither afterwards you'll go.*

At Abriès, in the Vallée du Queyras (Hautes Alpes).

270. EN REGARDANT L'HEURE QU'IL EST
PENSE À LA MORT ET TIENS TOI PRÊT.

*As the hour here you see
Think on death and ready be.*

At La Bessée, and at Le Poët (Hautes Alpes); and on the Church at Château Queyras (see No. 694).

271. EN REGARDANT VOUS VIEILLISSEZ. *Whilst beholding you become old.*

On the church at St. Nicholas (Haute Savoie).

272. EN SUPRA VITA FUGAX
EN INFRA CERTA MORS:
HINC VIVERE DISCE
ILLINC DISCE MORI.

*Lo, above is fleeting life :
And below is certain death.
From the one learn to live,
From the other learn to die.*

These mottoes are quoted by Mr. Leadbetter ("Mechanick Dialling," 1756), as being on the two faces of the dial on St. Mary Overy's Church (now St. Saviour's), Southwark, which hung over the burial ground. It was probably put up after 1647, as there is no sign of it in Hollar's etching of that date. If not destroyed before 1822, it must have been cleared away then, as the church was altered.

273. EN TOUTE ACTION PENSE A LA FIN. *In all thy doings think upon the end.*

On the sanctuary of Notre Dame des Vertus, at Peisey, Savoy. The saying is from Thomas à Kempis.

274. ENFANT, SOUVIENS-TOI QUE JE SERS
A MARQUER LE TEMPS QUE TU PERDS.
Remember, child, that I mark the time which thou dost lose.
In the court of the college at Forcalquier.

275. EÒ GRATIORES EÒ BREVIORES. *The sweetest are the shortest.*
At Annonay (Ardèche).

276. ERIT LAPIS ISTE IN SIGNUM. MDCCIV. PAR TA PUISSANCE. *That stone shall be for a sign. By Thy power.*

On a small stone dial bought at Cologne in 1885 by Mr. Lewis Evans. A crown and the letters L. P. B. in a monogram are also engraved on the face.

277. ERRAR PUÒ IL FABBRO
ERRAR PUÒ IL FERRO
IO MAI NON ERRO.
*The maker may err
The iron may err
I never err.*

At Graglia in Piedmont.

278. 'EPXETAI ΓΑΡ ΝΥΞ.
For the night cometh.

A sketch of this dial was made by the collector (Mrs. Gatty) at Abbotsford in 1839, where the pedestal stood outside a small plantation near the house. But the dial plate with its gnomon was gone; only two nails, which had once served to fasten it, remained. So the

motto had been a prophecy ; for the dial's work was over, since it could henceforth record nothing, except that the night was coming—which, indeed, had come as if in mockery of itself. One could not help thinking further of the night that came down upon Abbotsford when its illustrious master was lost to the world.



ABBOTSFORD.

The motto was also adopted by Dr. Johnson, as we learn from the following passage in Boswell : " At this time I observed upon the dial-plate of his (Dr. Johnson's) watch a short Greek inscription, taken from the New Testament, ΝΥΞ γὰρ ἔρχεται, being the first words of our Saviour's solemn admonition to the improvement of that time which is allowed to us to prepare for eternity — ' The night cometh when no man can work.' He sometime afterwards laid aside this dial plate, and when I asked him the reason, he said, ' It might do very well upon a clock

which a man keeps in his closet ; but to have it upon his watch which he carries about with him and which is looked at by others, might be censured as ostentatious.' " Croker adds in a note : " The inscription, however, was made unintelligible by the mistake of putting νυξ for νυξ. We would observe that this error is quite sufficient to account for the learned scholar putting aside his watch, and we know that he did not always condescend to fully enlighten his shadow, " Bozzy," as to his motives. It is also remarkable that in both cases the word γὰρ should have been introduced, for it is not in the New Testament. Probably, however, Sir Walter copied the passage from Johnson without referring to the original. With the beautiful candour which belongs to his character and marks the brief autobiography prefixed to Lockhart's life of him, Sir Walter Scott confesses that when he went to the college at Edinburgh he had no knowledge of the Greek language, and adds, " I forgot the very letters of the Greek alphabet." His comment on his own ignorance cannot be too often repeated : " If it should ever fall to the lot of youth to peruse these pages, let such a reader remember that it was with the deepest regret that I recollect in my manhood the opportunities of learning which I neglected in my youth ; that through every part of my literary career I have felt pinched and hampered by my own ignorance ; and that I would at this moment give half the reputation I have had the good fortune to acquire, if by so doing I could rest the remaining part upon a solid foundation of learning and science."

The same quotation 'ΕΡΧΕΤΑΙ ΝΥΞ, rightly rendered, is to be found as a motto upon the plate of a horizontal dial in the beautiful grounds of Dromore Castle, co. Kerry, inscribed by the late owner, R. Mahony, Esq.,

in 1871, when the dial was erected. Νύξ γὰρ ἔρχεται is with other mottoes on a dial at the House of Mercy, Horbury, Yorks. See No. 1629.

279. ES OURO (C'EST L'HEURE). *It is time.*

In the Provençal dialect, given by Baron di Rivière, but without locality.

280. EST DEO GRATIA. *Thanks are to God.* EST REPOSITA JUSTITIÆ CORONA. *There is laid up a crown of righteousness* (2 Tim. iv. 8). (See illustration, p. 119.)

These mottoes, with Nos. 360, 981, are inscribed round the moulding above the capital of the dial pillar at Corpus Christi College, Oxford. It stands in the quadrangle, a pillar surmounted by a cubical capital, above which is a pyramidal block of stone, with a dial face on each side, and this is crowned by a pelican on a globe, the crest of the College. On the four sides of the cube are four coats of arms carved in relief, viz.: (1) those of Bishop Fox, the founder of the College; (2) of Bishop Oldham; (3) of the University; (4) the Royal arms. In each case the scroll work round the shield acts as a gnomon to a dial face engraved below it. On the cylindrical shaft there is a fifth dial face, with a perpetual calendar engraved below it, and near the base is another motto, HORAS OMNES COMPLECTA. The initials C. T. and two dates, 1581 and MDCV, the latter date being probably that of the tables on the shaft, and the former that of the construction of the dial by Charles Turnbull, a member of the college, a Lincolnshire man, and the author of a treatise on the use of the celestial globe. The dial is described in a MS. work by Robert Hegge, written 1625-30, now in the College Library (see p. 119), and his drawing is reproduced in the Rev. T. Fowler's "History of Corpus Christi College." In this sketch "the octagonal base of the cylinder rests on a platform and is approached by four steps and surrounded with rails. The present square pedestal is not figured." The pillar is said to have been regarded as "inconvenient," during the old days of threatened invasion, when the quadrangle was used as a drilling ground, but happily it was not removed from its place and still stands as a memorial of Turnbull's mathematical skill. The four mottoes on the pyramid are adapted from the Vulgate.

281. ESTEEM THY PRECIOUS TIME
WHICH PASS SO SWIFT AWAY
PREPARE THEN FOR ETERNITY
AND DO NOT MAKE DELAY.

An incorrect version of No. 1074, in the same neighbourhood. The above is on one face of a cube of stone, bearing three dials on the other three faces, crowned with a ball and mounted on a stone column which stands on Wilton Bridge, near Ross, Herefordshire. It probably dates from the eighteenth century.

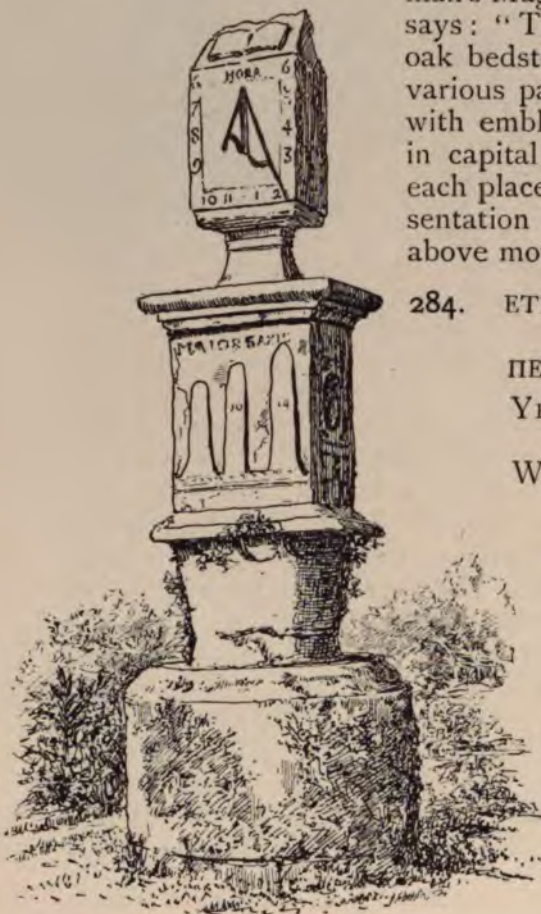
282. ET LE RICHE ET LE PAUVRE ET LA FAIBLE ET LE FORT,
VONT TOUS ÉGALEMENT DES DOULEURS À LA MORT.

The rich and the poor, the strong and the weak, all pass alike from sorrow to death.

On one of Zarbula's dials at Ville-Vieille (Hautes Alpes).

283. ET PILO SUA UMBRA. *Even the hair has its shadow.*

A writer in "The Antiquary" (vii. 186), quoting from "The Gentleman's Magazine" (1811), on ancient bedsteads, says: "There is at Hinckley a very ancient oak bedstead, much gilt and ornamented with various panelled compartments richly painted, with emblematical devices and Latin mottoes in capital letters conspicuously introduced in each place. . . . Amongst them is "the representation of" a horizontal sun-dial with the above motto.



TRELLECH CHURCHYARD.

284. ETI MIKPON XPONON TO ΦΩΣ ΜΕΘ
ΤΜΩΝ ΕΣΤΙ,
ΠΕΡΙΠΑΤΕΙΤΕ ΕΩΣ ΤΟ ΦΩΣ ΕΧΕΤΕ.

YET A LITTLE WHILE IS THE LIGHT
WITH YOU,

WALK WHILE YE HAVE THE LIGHT.

St. John, xii. 35.

The dial-plate from which these inscriptions were copied was fixed on an old disused school-house at Aynho, near Bicester. The sun is represented as a full human face, with rays surrounding it, and the gnomon forms the nose. In the centre are the initials of the builder, "M.C.," "one Mary Cartwright," and the date of the building, 1671.

285. EUNDO HORA DIEM DEPASCIT.
As it goes, the hour consumes the day.

Inscribed on a curious sun-dial in the churchyard of Trellech, Monmouthshire (cp. No. 1334). It was erected in 1648 by Lady Maud Probert, widow of Sir George Probert, and on three sides of the pedestal are represented in relief the three marvels peculiar to the place, viz. (1) A *tumulus*, supposed to be of Roman origin, and above it the words "Magna moli" (*Great in its mound*), "O quot hic sepulti" (*O how many buried here*). (2) Three stone pillars (whence the name

Tri-llech, the town of three stones), with the inscription, "Major Saxis" ("*Greater in its stones*"), the height of the stones,—viz., 8 feet, 10 feet, 14 feet,—being also given, and the words, "Hic fuit victor Harald" ("*Here was Harald victorious*"). (3) A representation of the well of chalybeate water and two drinking cups with "Maxima fonte" ("*Greatest in its spring*"), and below, "Dom. Magd. Probert ostendit."

Trellech is supposed to have been anciently a large town and place of importance. Tradition states that the pillars were erected by Harald to commemorate a victory over the Britons, but they are known to have existed in the seventh century, and are probably of Druidical origin. Nor does the tumulus cover the bodies of the slain, as suggested by Lady Probert's inscription; it is simply in the neighbourhood of the battlefield. In later days it was surmounted by the keep of a castle belonging to the Earl of Clare. The motto of the dial was almost illegible in 1887. The stone is described in "The Archæological Journal," xi. 129.

286. EVERY DAY BRINGS LIFE NEARER.

At Ballakilley, Isle of Man. See No. 1122.

287. EVERY HOUR SHORTENS LIFE.

Was formerly on the church porch at Barnard Castle, but at the restoration of the building the dial was removed and laid by in the church tower. The motto is also on a mural dial at "Turner's Hospital" at Kirkleatham, Yorkshire, a noble charity founded at his birthplace by Sir William Turner, Lord Mayor of London in 1699. The same motto is on a dial on the church at St. Austell, Cornwall.

288. EX HIS UNA TIBI. *Of these (hours) one is for thee.*

On a church in Brittany; and in a garden at Châtelaudren (Côtes du Nord). Also at La Johadière (Loire Inférieure), where "tibi" is rendered "mihi."

289. EX HOC MOMENTO PENDET ÆTERNITAS. *On this moment hangs eternity.*

On an old gable in Lincoln's Inn there was formerly a dial thus inscribed, which had been restored in 1840, and showed the hours from 6 a.m. to 4 p.m.; but it was taken down in 1874 and could not be replaced. A newspaper of 1812 informs us that a book was one morning found to have been suspended on the gnomon by the hand of some wag. When taken down, the volume proved to be an old edition of "Practice in Chancery." The same motto is at Sandhurst, Kent, "W Hawney fecit 1720"; at St. Budeaux, Cornwall; and was formerly on Glasgow Cathedral. It has also been read on a sometime seminary at Bourg d'Oisans, dated 1684.

290. EX UNDIS EMERGUNT IN AURAS. *From the waters they rise into the air.*

In the Conservatoire des Arts et Métiers, Paris; on a sculptured stone dial, probably intended for the centre of a fountain.

291. ΕΞΑΓΟΡΑΖΟΜΕΝΟΙ ΤΟΝ ΚΑΙΡΟΝ ΟΤΙ ΑΙ ΗΜΕΡΑΙ ΠΟΝΗΡΑΙ ΕΙΣΙ. *Redeeming the time because the days are evil.* Eph. v. 16.

In the Albert Park, Middlesbrough. See No. 97.

292. EXPECTO DONEC VENIAT ILLUMINATIO MEA
UT CUM ALIIS INSERVIRE VALEAM.

I await the coming of my light, that I with the others may be strong to serve.

This was inscribed on the north side of a casket-shaped dial of brass silvered and gilt, which was offered for sale in London, in 1898. It measured 4 in. in height, $\times 8\frac{1}{2} \times 6$ in. at the base, and $5\frac{1}{2} \times 3\frac{1}{2}$ in. at the lid. On the top and four sloping sides were five dials, showing both the Italian and the ordinary hours, the gnomons represented by boyish figures, and the shadow cast by an outstretched finger of the hand. About the figures are scrolls on which mottoes are engraved. That on the south side is:

"Vespere cum eis pariter et mane in eodem die ostendere non deferam."

At evening, as the others do, and in the morning likewise, I shall not delay to tell my tale.

On the east:

"A solis ortu usque ad meridiem intervalla ipsa diei aequae denuncio."

From sunrise till noon I announce at equal periods the divisions of the day.

On the west:

"(A') meridie usque ad solis occasum itaque cum illa gradior."

Like the last my steps I take from noon to sunset.

In addition to these four mottoes there are inscriptions inside the lid, and outside the hinged flap, giving the initials of the maker, A. Æ. V., and the name of the owner, and the date, 1770: "ad latitud Napolis Grad: 40, 50." Also a description of the use of the instrument, and inside the casket there is a compass and plumbline fastened to two cross bars.

293. EXPLEBO NUMERUM REDDARQUE TENEBRIS. *I shall complete the number of my days, and be restored to the shades.*

From the "Æneid," vi. 545, inscribed by the Rev. W. Tuckwell,

with other mottoes, on a dial which he has placed in his garden, Waltham Rectory, Grimsby. See No. 559.

294. EXPULSIS TENEBRIS RECREAT SPLENDORIBUS ORBEM. *Expelling the darkness, he revives the earth with his rays.*

On the Campanile at Sori, Riviera de Levante.

295. FAC DUM TEMPUS OPUS. *Work while it is day.*

This, with other mottoes, is on an octohedral dial-block in Mr. L. Evans' collection. There is no motto on the horizontal face at the top, and the eighth side, on which the block rests, is plain. Each face measures $7\frac{1}{2} \times 7\frac{1}{2} \times 9$ inches. It is of French workmanship, of the first half of the seventeenth century. For the other mottoes see Nos. 395, 900, 945.

296. FACCIAMO BENE ADESSO CHE ABBIAMO TEMPO. *While we have time let us do good.*

At the Trinitarian Convent on Monte Soracte.

297. FACTUS DIES HIC TRANSEAT. *The day that is done here let it pass.*

This has also been read as *Lætus dies hic transeat*, but the above is probably the correct version, as the dial, which is horizontal, is on the western side of the cloisters of the Certosa, Val d'Ema, near Florence; and receives the last rays of the sun. In 1889 the gnomon was no longer there. See No. 150.

298. FAIS CE QUE DOIS, ADVIENNE QUE POURRA,
L'HEURE EST A DIEU, L'ESPERANCE A TOUS.

*Do that which thou oughtest, come what may;
The hour belongs to God, hope to all.*

Noted in "The Monthly Packet," October, 1886, but no locality assigned. See No. 572.

299. FAY ME LUM E T'Y BEYRAS. (ECLAIR-MOI ET TU Y VERRAS.) *Shine upon me, and thou shalt behold it.*

On the front of an inn at Rieucros (Ariège). The dialect is Provençal.

300. FECIT SOLEM IN POTESTATEM DIEI. *He made the sun to rule by day.*
(Psalm cxxxvi. 8.)

Formerly on a house at Bruges.

301. FELICIBUS BREVIS, MISERIS HORA LONGA. *The hour is short to the happy, long to the wretched.*

Copied in 1866 from a dial on a house at Martigny. Time's hour-glass and wings were painted above the dial. Comp. No. 30.

302. FELICIBUS BREVIS MISERIS VITA LONGA. *Short is life to the happy, to the wretched long.*

At Paray le Monial. With four other mottoes. See No. 75.

303. FELIX HARMONIA MANET SI TENDIMUS UNA
TEMPORA SI PHŒBUS MONSTRAT LINGUASQUE MINERVA,
SI THEMIS ET CIVES IVRA VETVSTA DOCET.

A happy harmony is maintained if we strive in unity, if Phæbus shows us the hour, Minerva teaches tongues, and Themis instructs the citizens in the old law.

On the Rathhaus at Stolberg, in the Harz. The dial dates from the sixteenth century, but was repainted in 1723, the date being shown in a chronogram, MDCCVVVVIII. The arms of the town are painted on the dial between the figures of Minerva and Themis. The town belongs to Count Stolberg, whose castle stands on the hill above it.

304. FERREA VIRGA EST, UMBRATILIS MOTUS. *The rod is of iron, the motion that of shadow.*

The iron rod is, of course, the gnomon. The motto was copied in 1861, and the last word was difficult to read; *motus* has been supplied as the most probable reading, but Baron de Rivière gives it as *ictus*. It was on a large vertical north dial on the archiepiscopal palace which adjoins the cathedral of Chambéry. See No. 847.

305. FERT OMNIA ÆTAS. *Time bears all away.*

On the door of a farm, over the Manor House at Lund, Yorks.; and at Vallouise. See No. 133.

306. FESTINA LENTE. *Hasten slowly.*

On a vertical dial on a house at Deeping St. James, Lincolnshire; at Inch House, Midlothian, on a dial which was formerly at Craigmillar Castle (see No. 72); also on the Public Library at Albi.

307. FESTINA MOX NOX. *Hasten, the night (cometh) soon.*

Noticed in the "Graphic" for Aug. 11, 1883, as on a sun-dial on the King's House, Thetford. This house was once a Royal Mint, and was afterwards occupied by Queen Elizabeth and James I. successively.

308. FESTINAT SUPREMA. *The last (hour) hastens on.*

Seen in North Italy by Mr. Howard Hopley.

309. FIAT LUX. *Let there be light.*—Gen. i. 3.

At La Blaque, near Riaux, Provence.

310. FIAT LUX, ET FACTA EST LUX, FACTUSQUE EST VESPERE ET MANE
DIES UNUS.

Let there be light and there was light: and the evening and the morning were the first day.—Gen. i. 3, 5.

Seen at Courmayeur; and also at St. Didier, Val d'Aosta.

311. FIGURATI SENTIR IL MIO RUMORE,
QUANDO L'OMBRA A TOCCARS' È TUTTE L'ORE.
*As on each hour my shade's about to fall,
Thou in thy mind shouldst hear my sounding call.*

Given in "Notizie Gnomoniche."

312. FILI CONSERVA TEMPUS. *My son, observe the opportunity.*—Ecclus.
v. 20.

On the tower of San Stefano, Belluno, with No. 904; also at Palermo; at Carenna; and on a house on the Superga, near Turin.

313. FILIA SOLIS EGO,
GENUIT FERREA MATER,
SEQUOR ORE MATREM,
MOBILITATE PATREM.
MDCCCI.

*The daughter of the sun am I, an iron mother bore me,
In countenance I resemble my mother, in my movements my father.*

At Montagny, Savoy. This motto seems to be uttered by the shadow of the metal gnomon.

314. FINIET UNA LABORES. *One (hour) will end our toils.*

Recorded in "Bulletin Monumental," 1883; no locality assigned.

315. FINIS ITINERIS SEPULCHRUM. *The grave is the end of the journey.*

On the dial at Marrington Hall, Shropshire. See No. 1394. The motto recalls the more hopeful sentiment inscribed on Dean Alford's grave in St. Martin's Churchyard, Canterbury:

"Diversorium viatoris Hierosolymam proficiscentis." *The resting place of a traveller on his way to Jerusalem.*

316. FLOREAT ECCLESIA. *May the Church flourish.*

"This dial was given by Mr. W. Buck, minister here in anno 1697."

This inscription is over the church porch at Kirkby Malzeard, Yorks. Mr. Buck afterwards became Vicar of Marton-cum-Grafton, Yorks., and put up a dial bearing the same motto, with his initials and date 1700, on the chancel wall of that Church. When the Church was rebuilt in 1873, the dial was removed to its present position on the vestry chimney, and the iron gnomon having been broken, the Rev. J. R. Lunn, then vicar, replaced it with a copper gnomon pierced with

his initials and the Sunday Letter and Golden Number for the year of rebuilding. An older stone dial, possibly of the twelfth century, was found in the old church, and has now been inserted in the wall inside the vestry.

317. FORSITAN ULTIMA. *Perhaps the last.*

At La Rivière (Isère).

318. FORTE TUA. 1760. I. C. C. fecit. *Perhaps (this hour) is thine.*

At Vallouise (Isère), also at Vars, dated 1827, and at Les Orres (Hautes Alpes), 1831.

319. FORTE ULTIMA. 1825. *Perhaps (this hour is) the last.*

At Vallouise (Isère).

320. FORTUNA UT UMBRA FUGIT. *Good fortune fleeth like a shadow.*

On a dial engraved in "Der unbetrügliche Stunden Weiser," by J. H. Muller, Munich, 1702.

321. FROM THE RISING OF THE SUN TO THE GOING DOWN OF THE SAME THE LORD'S NAME IS TO BE PRAISED.

On the step of a dial at Linburn, Midlothian, recently erected by Ebenezer Erskine Scott, Esq. See No. 45.

322. FRONTE CAPILLATA, POST EST OCCASIO CALVA. *Opportunity has locks in front, and is bald behind.* 1828.

This well-known line is inscribed on a dial on the school-house at Guilsborough, Northamptonshire. It is quoted from "Disticharum de Moribus," lib. ii. D. xxv., written by Dionysius Cato, who is supposed to have lived in the time of the Antonines, in the second century. The lines are :

Rem tibi quam nosces aptam dimittere noli ;
Fronte capillatâ, post est occasio calva.

Sir Francis Bacon in his essay "Of Delays," thus writes : "For occasion (as it is in the common verse) turneth a bald noddle after she hath presented her locks in front and no hold taken." "Take Time by the forelock," is a proverb ; and the conventional figure of Time represents an old man bald, except for a tuft of hair on the crown on his head. Shakespeare recognizes the same idea :

Let's take the instant by the forward top ;
For we are old, and on our quick'st decrees
The inaudible and noiseless foot of time
Steals ere we can effect them."

All's Well that Ends Well, act v. sc. 3.

323. FUERAT CUNCTA NOVANTHUS.

In the Proceedings of the Berwickshire Naturalist's Club, 1885, there is a paper by Walter Laidlaw, Esq., on "Armorial bearings and Inscriptions in Jedburgh and its vicinity," and in this Mr. Laidlaw states ; "On

the front of Blackhills house in Castlegate is a stone, having the appearance of armorial bearings. Having examined it, I found two rather peculiar sun-dials with an inscription on an iron scroll, *Fuerat cuncta novanthus.*" No suggestion is made as to the meaning of the words.

324. FUGACEM DIRIGIT UMBRAM. *He guides the fleeting shadow.*

On the church of St. Sulpice, Paris.

325. FUGAX EST ÆTAS. *Time is fleeting.*

On the church, Westbury on Severn.



UNITED STATES NATIONAL NOTE.

326. FUGGONE COME L'OMBRA E DÌ DELI' ANNO ;
QUESTO LO DICE GIOBBE, E NON T' INGANNA ;
SE NON PENSI AL MORIR SARÀ TUO DANNO.
*The days that make the year like shadows soon are past ;
So said the seer Job, that truthful sage ;
Woe be to thee if thou on death no thought doth cast.*

Given in "Notizie Gnomoniche."

327. FUGGONE I GIORNI TUOI QUAL OMBRA, O VENTO,
E VIVI PUOI UN ORA SOL' CONTENTO ?
*Thy days like wind or shadow soon are spent,
And canst thou live one single hour content ?*

Given in "Notizie Gnomoniche."

328. FUGIO. *I fly.* MIND YOUR BUSINESS.

On the woodcut of a sun-dial which was on the first set of National-

notes (commonly called "Greenbacks"), issued by the United States after the Declaration of Independence, dated 1776. The facsimile here given is made from an original note kindly lent by Mr. Wilson Crewdson. Mr. E. C. Middleton of Birmingham (who has made a special study of the sun-dials of Warwickshire) states that he possesses a coin, "The first issued by the United States, a Franklin cent, dated 1787. On each side there are designs similar to those on the Half-dollar Note. One side bears a sun-dial with the sun above it, and below *Mind your business*. The other a ring of linked circles, but these are *not* inscribed with the name of the states; round the centre ring in place of *American Congress* the words *United States* are engraved, and within the circle *We are one*, as on the note.

329. FUGIO, FUGE. *I fly, fly thou.*

On a cross dial at Elleslie, near Chichester. See No. 104.

330. FUGIT, DUM ASPICIS. *It flies, whilst thou lookest.*

In a hamlet, near Baslow, Derbyshire, with three other mottoes (Nos. 711, 800, 1536); also on the wall of a building called Cairns' Chambers (Law offices), Church Street, Sheffield.

331. FUGIT, ET NON RECEDIT TEMPUS. *Time flies, and comes not back.*

Appears as a dial and a clock motto at once on the wall of a little court in the Convent della Quiete, near Florence. There is an overhanging roof, and above is suspended a tinkling bell. The convent was originally a royal villa, and received its name—"La Quiete della Granduchessa Cristina"—from its noble owner. It afterwards became the property of Donna Eleonora Ramirez di Montalvo, the foundress of the existing school. See No. 177.

332. FUGIT HORA. *The hour flies.*

On a stone mural dial at Moat Hall, near Great Ouseburn, Yorkshire. It is also at Lamancha House, Peeblesshire, on a fine composite dial of the seventeenth century. There is a sloping stone block, with a pedestal representing a basket of fruit, bearing a plain dial on its upper face, and cylindrical, heart-shaped and oblong hollows on the sides. "The under side is cut so as to leave a drum-shaped dial, the shadows on which are cast by the sides of the cutting. The oblong hollow on the one side has two carved serpents starting with their intertwined tails and wriggling round the sides of the hollow, the upper edge of which forms the style." The dial and pedestal are cut out of one stone. ("Castellated and Domestic Architecture of Scotland," by Ross and Macgibbon, vol. v., p. 430.)

333. FUGIT ^{HORA}UMBRA, CARITAS MANET. *The ^{hour}shadow flies, love remains.*

The first version is at Mirepoix; and the second at Les Allemans, both in the department of Ariège.

334. FUGIT HORA, ORA. *The hour flies, pray.*

On a circular dial in a square slab of stone, which stood over the porch entrance of Catterick Church, Yorkshire. The face was painted blue, the lettering gilt, and the gnomon sprang from a golden sun which was immediately below the motto. This was the dial alluded to in the Preface. It was removed from the porch when the church was restored, and was unfortunately broken, but an exact reproduction of the original slab was put up in its place through the kindness of William Booth, Esq., of Oran.



CATTERICK.

The Rev. A. J. Scott, D.D., the friend and chaplain of Lord Nelson, who died in his arms at Trafalgar, was vicar of Catterick from 1816, and was the father of Mrs. Gatty, the first compiler of this collection.

Fugit hora, ora, is on a dial at Gilling Church, near Catterick; and was formerly on the porch of Merthyr Mawr church, co. Glamorgan, dated 1720, but about fifty years ago the church was rebuilt, and the dial taken down and laid in the churchyard, where it still was in 1888.

Most exquisitely does Tennyson touch the three successive chronicles of time—the hour-glass, dial, and watch—in one of the poems of his “In Memoriam.”

“O days and hours, your work is this,
To hold me from my proper place,
A little while from his embrace,
For fuller gain of after bliss :

“That out of distance might ensue
Desire of nearness doubly sweet ;
And unto meeting when we meet,
Delight a hundred fold accrue.

“For every grain of sand that runs,
And every space of shade that steals,
And every kiss of toothed wheels,
And all the courses of the suns.”

335. FUGIT HORA. ORA. LABORA. Nath^l Priestley calculavit. Abr. Sharp delineavit. 1722. *The hour flies, pray, work.*

On a horizontal dial in the old garden of Alderhill, near Leeds, described in “The Yorkshire Weekly Post,” June 19, 1897. The dial was brought from Meanwood in the same neighbourhood. Abraham Sharp was a distinguished mathematician and astronomer, the friend and assistant of Flamsteed. Astronomer Royal from 1675 to 1719, and passed the later years of his life at Horton, near Bradford. Amongst the friends who visited him there was the Rev. Nathaniel Priestley, of Ovenden, a Nonconformist minister. He died in 1728, and as his grandson Henry is known to have been living at Leeds in 1781, it has

been conjectured that the dial may have been brought by him to Meanwood. The dial plate is finely worked, and is placed on a stone pedestal.

The same motto was read some years ago on a house in Southgate Street, Gloucester, but the dial is no longer there.

336. FUGIT HORA SIC EST VITA. *The hour flies, so with life.*

This is given as the probable reading of a dial on the church tower of Cubberley, Gloucestershire. The motto seemed to be *Fugit hora suevet*, and has, says a writer in "Notes and Queries," proved a very sphinx to inquirers. The solution is suggested by a correspondent in "Notes and Queries," 4th series, x. 254, 323.

337. FUGIT HORA SICUT UMBRA. *The hour flies like a shadow.*

This motto is written on an illustration in a French MS. on dials in the possession of Lewis Evans, Esq. The MS. appears to have been written at Nancy in the first half of the eighteenth century.

338. FUGIT HORA SINE MORA. *The hour flies without delay.*

Seen at North Wingfield, Derbyshire.

339. FUGIT (HORA) UTERE. *The hour flies, use it.*

In the court of the Lycée at Limoges; and on the façade of the Petit Séminaire, Dorat, France.

340. FUGIT HORA, VENIT HORA. *The hour flies, the hour draws nigh.*

On a horizontal slate dial in the kitchen garden at the Château de Vaux (Calvados), the residence of M. Caumont, founder of the Société Française d'Archéologie. The dial was brought from the Abbey of St. Barbe-en-Ange. In the centre there is a shield of arms surmounted by a count's coronet.

341. FUGIT IRREPARABILE. 1829. *Time flies, and cannot be retrieved.*

On the Caserne de l'Oratoire, Grenoble.

342. FUGIT IRREPARABILE TEMPUS. *Time passes never to be retrieved.*

Sedente Gregorio XVI. p.o.m. Antonius Mattevcius Oper. Vatican. prepositus. Ioanni Antonio Teppati hocce horarium lineari mandavit. Anno Dni. MDCCCXLIII.

This sentence records that the dial was made and erected in the pontificate of Gregory XVI., A.D. 1843, by Giovanni Antonio Teppati. It is on the south corner of the balustrade on the roof of St. Peter's, Rome; the dial being engraved on a horizontal slab of white marble. The words of the motto are from Virgil (see No. 1123). They were also formerly to be seen with No. 380 in the Cimetière St. Severne, Paris; and were copied in 1860 from a circular vertical dial placed below the gable and bell-cot of the church at Vallauris, near Cannes, and dated 1839. The same motto has been noticed at Guitalan (Tarn); St.

Maurice l'Exil (Isère); and on the Château de la Rochefoucauld. In England it has been read at Bridgend, co. Glamorgan; at St. Giles's, Little Torrington, Devon; and it was formerly on the church of St. Nectan, Wellcombe, Devon.

343. FUGIT IRREVOCABILE TEMPUS. *Time flies, and cannot be recalled.*

With No. 879 on the Mairie at Voulx, France; and at Tesero, Val Fiemme, Tyrol.

344. FUGIT TEMPUS MANET RIQUETTI GLORIA. *Time flies, the glory of Riquet remains.*

Near the Bureau de la Navigation du Canal du Midi, Toulouse.

It records the name of Riquet, the great French engineer, who in the seventeenth century made the canal which connects the Mediterranean with the Bay of Biscay.

345. FUGIT TEMPUS, VENITQUE AETERNITAS. *Time flies, eternity approaches.*

On a square slate dial of the seventeenth century, sold in London in 1898 or 1899. See No. 189.

346. FUGIT UMBRA. *The shadow flies.*

Formerly on the church at La Ferté Bernard.

347. FUI UT ES, ERIS UT SUM. *I was as thou art, thou wilt be as I am.*

At Marrington Hall, Shropshire. See No. 1394.

348. FUMUS ET UMBRA SUMUS. 1699. *We are smoke and shadow.*

On a house in the Via Maestro, Salbertrand, a village at about an hour's distance from Exilles.

349. GARO D'UNO D'AQUESTEI
(PRENDS GARDE À L'UNE D'ELLES).

Beware of one of them!

In the Provençal dialect, at Val, near Brignoles.

350. GEDENCT AM DEIN END. 1726. *Think upon thine end.*

On the church at Interlaken.

351. GEDENKE DASS DU STERBEN MUSST. 1838. *Remember that thou must die.*

Copied in 1863 from a dial on the south wall of the church at Ringenburg, near Interlaken. The gnomon was in the centre of an eight-pointed star at the top of the dial, and the motto on a half circle below. The church was built on the site, and out of the ruins of an old castle, and stands on a hill overlooking the little lake of Goldswyl, or Faulensee. The tower of the castle still stands amongst the trees in

the churchyard. The church was transferred to this place from Goldswyl in 1674.

352. GIVE GOD THY HEART, THY HOPES, THY SERVICE AND THY GOLD,
THE DAY WEARS ON, AND TIME IS WAXING OLD.

On a pedestal dial in the garden of St. Lucy's Home, Gloucester. The dial rests upon a metal plate, and on this the above lines are engraved. The pedestal is a wooden baluster which was taken from old London Bridge when it was pulled down in 1832. The Warden of the Home, who in 1888 owned the dial, could recollect it for sixty years, and before it was placed on its present pedestal.

The late Rev. F. E. Paget introduced a motto greatly resembling the above into one of his "Tales of the Village," *The Miser's Heir*, as follows:

"As I proceeded leisurely round Baggesden Hall, I observed an ancient sun-dial, adorned with heraldic devices, and grotesque emblems of mortality, carved in stone, according to the style which prevailed at the close of the sixteenth century. On a scroll above it was inscribed, 'Homfrie and Elianor Bagges. A.D. 1598'; and beneath it, in smaller but still very legible characters, the following rhyme:

" 'Give God thy heart, thy hopes, thy gifts, thy gold,
The day wears on, the times are waxing old!'"

The description is altogether imaginary, and Mr. Paget had no recollection in later years of ever having seen the lines, but there can be little doubt that they had come originally from St. Lucy's Home.

353. GIVE LIGHT TO THEM THAT SIT IN DARKNESS,
AND GUIDE OUR FEET INTO THE WAY OF PEACE.

(St. Luke, i. 79.)

At Broughton Castle, near Banbury, there is a garden dial, the gnomon of which is of clipped box, and the hour numerals are of flowers and foliage cut close, and set in a semi-circular bed surrounded by green turf. The above motto surrounds the numerals, and is also written in flowers and foliage. See "Country Life," December 17th, 1898.

354. ΓΝΩΘΙ ΚΑΙΠΟΝ.
IN HORA NULLA MORA
MISSPEND NO TIME
PEREUNT ET IMPUTANTUR.

*Know the time, in time no tarrying,
Misspend no time, they perish and are reckoned.*

These four mottoes, which seem intended to be read consecutively, are on four sides of the cubical top of a column about four feet high which supports a horizontal dial in the rectory garden at Micheldean, Gloucestershire. The shaft is ornamented with a Tudor rose and diamond in relief. On the two sides of the plinth are the words

"Rector rectoris" (*The rector's director*), and there appear to have been other words on the remaining sides, but these are now obliterated, and of the date only 16—remains.

355. GO ABOUT YOUR BUSINESS.

On a buttress of St. James's Church, Bury St. Edmunds; on Cavendish Church, Suffolk; and on Bromham Hall, Bedfordshire, for many years the residence of the Dynes family. Formerly on the Church at Kilnwick on the Wolds, Yorks., but the motto having been obliterated by the weather, another—"The time is short"—was, in 1882, painted in its place.

It is said that the witty Dean Cotton of Bangor had a very cross old gardener, who protected his master from troublesome visitors by saying to everyone he saw near the place, "Go about your business." When the gardener died, the Dean had his servant's favourite formula engraved round the sun-dial in his garden, in this wise:

Goa bou tyo urb us in ess. 1838.

with the result that the motto was usually supposed to be in Welsh. After Dean Cotton's death the dial was bought by Mr. Doyle Watkins, of Glan Adda, and is now at Tanyfrou, near Bangor.

The same words rather differently, but as irregularly divided, are on a sun-dial in the garden at Brook Lodge, Chester.

Similar mottoes may be found at Nos. 19, 93.

356. GO YOUR WAY INTO HIS COURTS WITH THANKSGIVING.

Reg. Jones. Rector, W^m. Joliffe. Rich. Woodford 1727.

On the church porch, Brighstone, Isle of Wight. Bishop Samuel Wilberforce was at one time Rector of this parish, and, in earlier days, Bishop Ken. See Ps. c. 3.

357. GOD GIVETH ALL. 1570.

This motto is recorded in "West Country Stories," by Mr. Hamilton Rogers, as follows:

"At Axmouth on a broad stone in the south face of a tall Tudor chimney are the lines and numerals of a sun-dial nearly obliterated. On the companion stone facing west are the initials of the original owner with the motto."

358. GOD'S PROVIDENCE IS MY INHERITANCE. 1676. R. H. I. C.

In a garden at Liberton, Midlothian.

359. GRATA BREVISSIMA. *The happy hour is the shortest.*

At Maison Catusse, Moissac (Tarn et Garonne).

360. GRATA SUPERVENIET QUÆ NON SPERABITUR HORA. *The hour that is not hoped for is most grateful when it comes.*

On the south-west angle of a seventeenth century house, named

Denburn, at Crail, Fifeshire. The line is from Horace, Ep. i. 4, 14. The preceding line, "Omnem crede diem tibi diluxisse supremam" (*Think every dawn of day to be thy last*) is used as a motto on another dial on the same house, though it is now almost illegible.

361. GRATIA DEI MECUM. *The grace of God with me.*

One of the mottoes on the dial pillar at Corpus Christi College, Oxford. See No. 280.

362. GUARDANDO IL MEZZODÌ, PENSATI ALLA SERA. *When mid-day's hour thou seest, of eventide bethink thyself.*

Read in a garden in Tuscany.

363. GUARDANDO L'ORE, PENSA CHE SI MUORE. *Gazing on the hour, think! death comes to all.*

Given in "Notizie Gnomoniche."

364. GWEL DDYN MEWN GWIWLAN DDEUNYDD
MAE FFO HEB DARIO MAE'N DYDD.

Behold, O man, the day it fleeth without tarrying.

At Whitford Church, Flintshire.

365. HAEC CUM SOLE FUGAX THEMIDIS MARTISQUE LABORES
ET VENALE FORUM DIRIGIT UMBRA SIMUL.

This shadow, fleeting with the sun, controls the toils of law-court, camp, and market-place.

With other mottoes in the Place d'Armes, Briançon. See No. 8.

366. HAEC MEA FORTUNA TUA. *This my fate is thine.*

Formerly at St. Lazaire, Paris.

367. HAEC MONET UT CELERI FUGIT IMPETU TEMPUS IMAGO.
MDCCLXXIII.

This picture warns thee how swiftly flies the time.

In the garden of the Presbytère at Plaudren (Morbihan).

368. HAEC PATET ET TUA LATET,
FAC MODOQUE MORIENS,
FACTA FUISSE VELIS.
DI¹ 9. 7^{RE} AÑO 1702

What hour 'tis now, is plain,—thy hour is hid:

Work, and desire not to cease until death comes.

At Les Tombêtes, Savoy.

369. HAEC VLTIMA FORSAN. *Perchance this is thy last (hour).*

At Malemort (Bouches du Rhône).

370. HAEC VLTIMA MULTIS. *To many a man it is the last (hour).*
At Causans (Vaucluse).

371. HANC QUAM TU GAUDENS IN GNOMONE CONSULIS HORAM,
FORSITAN INTERITUS CRAS ERIT HORA TUI.
*This hour, which now thou cheerfully readest by the pointer,
Perhaps will to-morrow be the hour of thy death.*

Copied in 1866, at Voltri, near Genoa.

372. HARUM DUM SPECTAS CURSUM
RESPICE AD NOVISSIMAM HORAM.

C. C. Walker 1881. | Lat 54° 58'.
W. R.

*Watching these fleeting hours soon past
Remember that which comes at last.*

On a storehouse of the Neptune Works, Newcastle-on-Tyne, erected by J. Wigham Richardson, Esq., to whom the motto and its translation are due.

373. HASTE, TRAVELLER, THE SUN IS SINKING LOW:
HE SHALL RETURN AGAIN, BUT NEVER THOU.

At Tytherton Kellaways, Wilts (see No. 1619); and, in 1896, placed on a horizontal dial in a garden at Mill Hill.

374. Ἡ ΣΚΙΑ ΚΟΤΦΗ ΣΟΦΙΑΝ ΣΕ ΔΙΔΑΣΚΕΤΩ. *Let the slight shadow teach thee wisdom.*

At Torrington, Devon.

375. HE THAT TO HIS NOBLE LINNAGE ADDETH VERTV AND GOOD CON-
DISIONS, IS TO BE PRAYSED.

THEY THAT BE PERFECTLI WISE DESPISE WORLDLI HONOR, WHER
RICHES ARE HONORED GOOD MEN ARE DESPISED.

These two sayings are inscribed on the outer edges of a circular box of gilt brass, $2\frac{1}{4}$ inches in diameter, now in the British Museum. On the upper surface there is a nocturnal dial, and within the box a compass and three circular metal plates, on one of which the twenty-four hours of the day and night are engraved. The instrument is designed for various uses—as the observation of the moon, and to ascertaining the sun's altitude and declination, etc.—and also contains a calendar and table of latitudes. It was made for Robert Devereux, Earl of Essex, and bears his arms. It is signed "James Kynuyn fecit, 1593."

Mr. Bruce, who fully describes this dial in "Archeologia," xl. 343, gives also a transcript of a marginal note by Gabriel Harvey, in a copy of Blagrave's "Mathematical Jewel" (1584), in which he commends highly the maker: "M. Kynuyn of London near Powles: a fine workman and my kind frend: first commended to me bie M. Digges and M. Blagrave himself. Meaner artificers much praysed by Cardan,

Gauricus, and others, than he and old Humfrie Cole, nice mathematical mechanicians. As M. Lucas newly commends Jon Reynolds, Jon Read, Christopher Paine, Londoners, for making geometrical tables with their feet frames, rulers, compasses and squires. Mr. Blagrave also in his Familiar Staff commends Jon Read for a verie artificial workman."

376. HE THAT WOULD THRIVE MUSTE RISE AT FIVE.
 HE THAT HATH THRIVEN MAY STAY TILL SEVEN,
 HE THAT WILL NEVER THRIVE, MAY LIE TILL ELEVEN.

On a house at Stanwardine in the Fields, near Baschurch. See No. 506.

377. 'HMEPAI ὥστί ΣΚΙΑ. *Our days are as a shadow.*

With No. 1040, on the Grammar School, Wellingborough.

378. HERE IN CHRIST'S ACRE, WHERE THIS DIAL STANDS,
 WITH PIOUS CARE AND BORNE BY REVERENT HANDS,
 SOME WANDERERS GARNERED IN FROM EAST AND WEST,
 AMONG THE HOME-LOVED LIE IN SOLEMN REST;
 SEVERED IN LIFE BY LINEAGE, RACE, FAITH, CLIME,
 THEY BIDE ALIKE THE LAST SOFT STROKE OF TIME;
 AND WHEN GOD'S SUN WHICH SHONE UPON THEIR BIRTH
 ENDS HIS BRIGHT COURSE AND VIGIL O'ER THE EARTH—
 WHEN O'ER THIS DISC THAT DAY'S LAST SHADOWS FLEE,
 AND "DEATH NO MORE DIVIDES AS DOTH THE SEA,"
 THE DEAD WILL RISE,—RETAKE THE LIFE GOD GAVE,
 CREATION'S SAVIOUR BLESS EARTH'S OPENING GRAVE!
 THY WORD HATH WRIT THE BLEST—NO CONSCIENCE CLEAR
 IN THOUGHT AND WORD, ALL MUST THY JUDGEMENT FEAR.
 ONLY OUR OWN WILD WORDS, WHICH FASHIONED PRAYER
 WHEN LIFE WAS PARTING, STILL MOVE THE AMBIENT AIR,
 PLEADING THAT GOD, WHO MADE, WILL GRANT THAT WE
 MAY WITH THE PURE IN HEART, THE GODHEAD SEE.

The dial erected in 1879 by Lady Burdett-Coutts in St. Pancras' Gardens, bears these lines. It is upwards of thirty feet in height, and in the Early Decorated style. It is built of Portland stone, and has a marble tablet on each side and clustered granite columns at the corners. The above lines are inscribed with the Beatitudes on one of the tablets below the dial. On the tablets on the other three sides are the names of the illustrious men who lie buried in the old churchyard of St. Pancras; and also a statement that the gardens, formed out of the burying-ground of St. Giles' and the churchyard of St. Pancras, are assigned for ever to the loving care of the parishioners. The dial is especially dedicated to the memory of those whose graves are now unseen, or the record of whose names may have become obliterated.

379. HERE MI, NESCI'S HORA
 MORIERIS, SI QUÆRIS, QUA.
 John Owen. 1683.

My master, thou knowest not, if thou askest, the hour in which thou shalt die.

A motto, in bad Latin, on a dial set on a spirally carved pedestal in the garden of the Hon. W. R. Stanley, at Penrhos, Holyhead. Let no one imagine that this motto is either misspelt or mis-transcribed. Mrs. Vaughan, from whom the collector (Mrs. Gatty) received it before 1870, vouched for its accuracy on the authority of her husband, the late Master of the Temple and Dean of Llandaff, who compared it with the original, and found it correctly copied, however incorrect in itself. It afterwards brought a smile to the lips of Lord Tennyson, who, when translating it, broke out into exclamations, "But you've no notion what bad Latin it is!" "But you can't imagine how vile the Latin is!" *Oh! my master, if thou should'st seek to know the hour of thy death, thou shalt be ignorant of it.*

At Caereglwyd, Anglesey, in the near neighbourhood of Penrhos, there is a pretty little horizontal dial-plate of brass, with the initials I. O. and date 1697 engraved upon it. It was evidently by the same maker as the above, John Owen; and it belonged to Richard Hughes, of Treeddôl, who died 1771. It was in 1898 presented to Lady Reade by a descendant of Richard Hughes, Mr. Robert Lewis, of Plâsymynydd, and is now set up at Caereglwyd.

380. HEU MISER MORTALIS! ULTIMA LATET HORA. *Alas, poor mortal! the last hour is hidden.*

Painted on the wall of a house, new in 1889, at Mollia, Val Sesia. In addition to the dial, there is the Wheel of Fortune, having four spokes, and four little figures on it: the first, clad in a green coat and top boots, is climbing up the wheel; the second is seated in triumph at the top, wearing a blue coat and a gold crown; the third is descending in a white shirt; the fourth is lying on the ground clad in rags only. Attached to these figures are the four sentences:

"Regnabo."	"I will be king."
"Ego regno."	"I am king."
"Regnavi."	"I have been king."
"Sum sine regno."	"I am without a kingdom."

No doubt the figures and inscriptions are meant to signify the four ages of man. Below the wheel is the motto, "Sic transit gloria mundi." *Thus passeth the glory of the world.* See No. 1594.

On the same house, at a little distance, a cat is painted, glowering from a painted window-sill.

381. HEU! MORTIS FORTASSE TUAE QUAM PROSPICIS HORA. *Alas! the hour thou dost behold is perchance the hour of thy death.*

Formerly in the Cimetière St. Severne, Paris, with No. 342.

382. HEU PATIMUR UMBRAM. *Alas! we endure the shadow.*

Formerly at Sleningford Hall, near Ripon.

383. HEU, QUÆRIMUS UMBRAM. *Alas! we pursue a shadow.*
Recorded in the "Leisure Hour" some years ago; without locality.

384. HEU: QUAM PRÆCIPITE LABUNTUR TEMPORA CURSU.
RESPICE MORTALIS SUNT VELUT UMBRA DIES. 1613.
Alas! with what headlong course time passes by!
Look back, mortal, the days are like a shadow.

On the Franciscan convent at Mesma, province of Novara.

385. HIC LABOR HIC REQUIES MUSARUM PENDIT AB UMBRA. *Here the shadow marks the hours for study, and for rest.*

Baron de Rivière quotes this motto from a collection made in 1806 by M. Dubois, who suggested it as suitable for a college, and rendered it thus:

L'ombre s'enfuit, revient, et dans son cour égal
De l'étude et des jeux donne ici le signal."

In 1869 it was said to be on the Lycée at Rouen, in a slightly altered form:

"Hic labor, hic requies musarum pendit ab horis."

386. HIC LICET INDULGERE GENIO. *Here you may indulge your taste.*

"Indulgere genio" is from Persius, v. 151. Dean Alford wrote: "I observed between Mentone and Bordighera a brand new villa conspicuously inscribed," as above. "On inquiry I found that it belonged to an eccentric lady."

387. HIC NEC CURA JUVAT MERITIS ACQUIRERE (LAUDEM)
NAMQUE MALIS ORITUR SOL PARITERQUE BONIS.

Here, though thou be careful to gain (praise) by thy merits thou dost not profit, for the sun rises alike on the good, and on the evil.

At Montoire (Loire et Cher). M. Jusserand thus describes the place: "On the main square rises the pile of the old church of St. Oustrille (*i.e.*, St. Austregesille, Bishop of Bourges) rebuilt by Louis de Bourbon Vendôme, the companion in arms of Joan of Arc. On another side may be seen the finest Renaissance houses in Montoire. One of them has a sun-dial with a sceptical pessimistic inscription: "What is the good of doing well? The wicked have as much sunshine as the righteous" (*Ronsard and his Vendômois*, "Nineteenth Century," April, 1897).

388. HIC PHÆBO SOLITUM RENOVU FULGENTE LABOREM,
NAM MIHI NI LUMEN SUBVENIT, HORA LATET.

*When Phœbus shines my wonted course I go;
Without his aid the hour I cannot show.*

Contributed by C. E. Noel James, Esq.; no locality assigned.

389. HI QVI HO C TEMPORE BENE VTENTVR
GAVDIIS CÆLI PERENNE FRVENTVR.

*Those who their time here well employ,
Shall Heaven's eternal bliss enjoy.*

On a German hone-stone dial in Mr. L. Evans' collection. The chronogram gives the date 1785.

390. HIC SOL ET UMBRA PROSUNT. *Here sun and shade alike avail.*

On a mill at Manosque (Alpes Maritimes).

391. HINC DISCE. *Hence Learn.*

In Malvern Churchyard stands a graceful shaft 19 feet high, of a cross of the fifteenth century, crowned with a cube and ball, and with dials on the four sides of the cube. On the north face there is an illegible inscription which apparently consisted of two lines, one above and one below the gnomon, and the initials W. K. From the position of the only two words which could be made out, it seems as if the motto had been that which was formerly on St. Mary Overy, Southwark: *Hinc vivere disce, Illinc disce mori* (see No. 272). Half-way up the shaft is a pretty niche in which there was probably once a figure of the Blessed Virgin. *Hinc disce* was engraved on a dial which formerly stood on the West Pier at Brighton, with Nos. 443, 1207, 1487.



MALVERN.

392. HINC UNDA HINC LABITUR ÆTAS.
Hence glides the water, hence the time.

Formerly in the court of the Thêatin Convent, Paris. See Nos. 1004, 1026.

393. HINC VIVERE DISCAS. *Hence learn to live.* J. Dougall fecit, Kirkcaldy, 1778.

On a pedestal dial at Mount Melville, St. Andrews. The inscription is on the metal plate, which also tells the latitude and longitude, and that the time at Constantinople is 2 hours 10 minutes, and at Bergen 57 minutes earlier than at Craigton (as St. Andrews is called by its old name), whilst at Kingston it is 5 hours 5 minutes later.

394. HINGETH DIE ZEITH HER KOÏT DER TOD
DRUM MENSCH THU RECHT UND FÜRCHTE GOTT.

*Time passes away, death draweth on,
Therefore men do right, and fear God.*

N N

On the cross dial engraved in Johann Gaupp's "Tabulæ Gnomonicae," 1708. See Nos. 230, 247.

The lines are from a hymn written by Emilia Juliana, Countess of Schwarzburg-Rudolstadt, on the death of Duke Johann George of Sachsen-Eisenach in 1686.

395. Ὁ ΗΛΙΟΣ ΠΑΝΤΑ ΜΕΡΕΙ
The sun divides all things.
 Ὁ ΚΑΙΡΟΣ ΟΙΚΕΤΑΙ
The moment passes.

On two of the faces of an octohedral dial of early seventeenth century French work in Mr. Evans' collection. See No. 295. It seems probable that the writer of this motto has made a mistake in using the word *μέρει* as if it were *μερίζει*. The word *μέρει*, as it stands, is the dative case of a noun: the tense seems to require a verb.

396. Ὁ ΚΑΙΡΟΣ ὈΞΥΣ. *Time is swift.*
 ἈΜΕΡΑΙ ἘΠΙΛΟΙΠΟΙ ΜΑΡΤΥΡΕΣ ΣΟΦΩΤΑΤΟΙ. *The days that remain are the surest witnesses.*

On Alleyne's Grammar School, Uttoxeter. The dial was originally on the school-house built 1568, and was moved to the present building in 1859. The second motto is from Pindar, Olymp., i. 53.

397. Η Ο ΛΑ VITA NELLA LUCE, LA MORTE NELLE TENEBRE. *I have life in light, death in darkness.*
 At Cossila, near Biella.

398. Η ΟC AGE LUMEN ADEST. *Be diligent, while the light abides, 1816.*

On a gable of the parish church at Chirnside, Berwickshire. The building has been restored, but part of it is Norman and the dial looks older than its date. Mr. Thomas Ross, who copied the motto in 1888, had difficulty in deciphering the word rendered *lumen*, but there is every reason to believe that the above reading is correct. A stone on the north gable is inscribed, "Repaired 1705," which may also be the original date of the dial. There are several old dials in the village of Chirnside, chiefly made by a man of the name of Dunbar.

399. Η ΟC TUUM EST. *This (hour) is thine own.*

On the south porch of Whitworth Church, co. Durham.

400. Η ΟDIE MIHI, CRAS TIBI. *To-day for me, to-morrow for thee.*

At Les Brévières, and at Mont Valezan, near Bellentre (both in Savoy). It is also on a silver folding-dial and calendar, of German workmanship, with a silver outer case like that of a watch, in Mr. L. Evans' collection. The opening lines of St. Bernard de Morlaix's hymn are also engraved on this dial, but the word *sunt* is omitted: *Hora novissima, tempora pessima (sunt); vigilemus!*

401. HOMME MORTEL! LES HEURES DONT TU VOIS L'IMAGE
PASSENT VITE, TU DOIS EN FAIRE UN SAINT USAGE.

*Learn from these fleeting shades the shortness of thy days,
And strive, O mortal man! to tread God's holy ways.*

On the École des Frères Maristes, at St. Pierre de Bressieux (Isère).

402. HOMME MORTEL SI TU ES FIN
VOY, CE CADRAN MARQUE TA FIN.
VT STYLI VMBRA FVGIT
SIC TVA VITA PERIT.

1657

Desclos fecit.

Mortal man, if thou art wise, behold, this dial marks thine end. As the style the shadow flies, so thy life perishes.

On the church of St. Michel Chef (Loire Inférieure). Gilles Desclos was the curé of the parish. He is mentioned in an inscription inside the church which alludes to "M. Gilles Declos qui avec soin agissait."

403. HOMO FUGIT QUASI UMBRA. *Man fleeth as a shadow.*

At Mont Valezan, near Bellentre, Savoy.

404. HOMO PROPONIT DEUS DISPONIT. *Man proposes, God disposes.*

With No. 967 on the outside of the lid of a small ivory box and compass dial, or portarium, in the Musée Cluny, Paris. There are two mottoes inside the lid (Nos. 8 and 207), and the maker's name, "Hans Troschel, Noribergæ faciebat, Anno MDCXXVII."

405. HOMO QUASI UMBRA. *Man is as a shadow.*

On the south wall of Cumwhitton Church, Cumberland.

406. HOMO QUASI FLOS CONTERITUR ET FUGIT VELUT UMBRA. *Man is cut down like a flower, he fleeth also as a shadow.* From Job, xiv. 2.

In the Séminaire at Issy, near Paris.

407. HOMO QUIDEM COGITAT, SED DEUS DISPONIT.

IN TEMPORE VENIRE EST OMNIUM PRIMUM.

Man indeed proposes, but God disposes.

To come at the right time is of all things the first.

These mottoes, with No. 1320, are on an ivory compass dial in the Victoria and Albert Museum, South Kensington, signed "Hans Troschel faciebat."

408. HOMO SAPIENS IN OMNIBUS METUET. *He who is wise will fear at all times.*

At Alleins (Bouches du Rhône).

409.

HOMO VANITATI SIMILIS FACTUS EST :
DIES EJUS SICUT UMBRA PRAETEREUNT.
MDCXVI

Man is like to vanity : his days are as a shadow that passeth away.
Psalm cxliv. 4.



On an old stone dial, bearing the arms of the family of Bourguignan, in the De Bresc collection.

410. HONI SOIT QUI MAL Y PENSE.
Evil be to him who thinks evil thereof. Henricus Wynne. Londinii, fecit.

On a dial which Charles II. caused to be erected at Windsor, on the East Terrace, close to what are still known as "The Star Buildings." The plate is circular and horizontal, and in the centre the star of the Garter is engraved, with the motto upon it; the gnomon rises from this and is perforated, with the king's monogram and crown entwined therein. The pedestal is marble, and decorated with carving in high relief, which is said to have been the work of Grinling Gibbons.

411. HONOR DOMINO PRO PACE POPULO SVO PARTA. *Honour be to the Lord for the peace procured for His people.*

Mentioned in Mr. Hilton's work on "Chronograms," as a

motto on the upper border of a sun-dial formerly at the west end of Nantwich Church. It was removed in 1800. The date 1661 points to the year after the Restoration of Charles II.

412. HONOR SOLI DEO. *Glory to God alone.*
At Décines (Isère).

413. HORA AGENDI. *It is the hour to act.*
At Malosa, near Voiron (Isère).

414. HORA BENE FACIENDI. *It is the hour to do good.*

At Montferrat (Isère); on the church of St. Pierre de Paladru; and at Hyères.

415. HORA BIBENDI. *The hour for drinking.*

With three other mottoes on a dial at Inch House, Midlothian, which was formerly at Craigmillar Castle (see No. 72). With No. 624 at Pont de Cervières (Hautes Alpes). At Le Pinet (Hautes Alpes), it is over the door of a house which was once a cabaret, and accompanies a picture of a wine pot and the words "Bon Vin." It has been seen in a similar position near Grenoble; and at Villard-Bonnot (Isère); and has also been read in the Crau, Provence, and, with the additional words, *et solvendi* ("and to take your ease"), in the department of Isère.

A writer in the "Bulletin de la Société Astronomique de France," vii., 1860, speaking of the country about Abriès, near the Monte Viso, says: "Toutes les églises que nous avons vues dans notre excursions portaient sur leur clocher un cadran solaire, orné d'une devise latine, quelquefois assez singulièrement choisie — *Nunc hora bibendi*, par exemple."

416. HORA BREVIS AMICI LENTA ONEROSI. Péché, 8 Août 1847. *Short is the time spent with a friend, long that spent with a bore.*

At Méaudre (Isère).

417. HORA, DIES, ET VITA FUGIUNT; MANET UNICA VIRTUS. *The hour, day, and life, all fly away, virtue alone remains.*

On the column of a dial at St. George's Vicarage, Truro.

418. HORA EST IN QUA VERI ADORATES ADORABUNT. *It is the hour in which true worshippers will worship* (from St. John, iv. 23).

On a church in France belonging to the nuns of the Holy Sacrament, by whom Perpetual Adoration is maintained; also on a house at La Salle (Hautes Alpes).

419. HORA EST JAM NOS DE SOMNO SURGERE. *Now it is high time to awake out of sleep* (Rom. xiii. 11).

At Bellegarde; and on the Curé's house at Eyzin (Isère). Formerly on the Séminaire Magloire, Paris; and at Montmorency.

420. HORA EST ORANDI. *It is the hour for prayer.*

At Maussane (Bouches du Rhône).

421. HORA EST ULTIMA MULTIS
ADVIGILA; TUA TE INOPINA MANET.

For many 'tis their last hour. Watch thou, thine hour awaits thee when thou thinkest not.

Formerly in the Collège de Navarre, which is now the Ecole Polytechnique, Paris.

422. HORA FLUIT, CULPÆ CRESCUNT, MORS IMMINET;
HEU, VITÆ CORRIGE FACTA TUAE.

*The hour flows on, faults increase, death impends:
Alas! amend the deeds of thy life.*

Copied in 1866 from a dial on the church of St. Pierre, Canton, Valais. The motto was then somewhat defaced. The dial was painted on the south wall and protected by a buttress, and faced the snowy Mont Vélán.

423. HORA FUGIT. *The hour flies.*

At Chapareillan, and Le Touront (Isère). Also at Bletchley Park, on a dial erected by H. S. Leon, Esq., in 1891.

424. HORA FUGIT, CELERI PROPERAT MORS IMPROBA PASSU. *The hour flies, with swift step doth conquering death hasten on.* Ieronimus Wulparia, Florentinus. A.D. MDLXXVII. See No. 801.

On the back of a brass dial and astrolabe in the museum at Perugia.

425. HORA FUGIT; MEMENTO MORI. *Time passes; remember death.*

On a dial which, until the recent restoration, was on the porch of the parish church of Rotherham. The motto replaced an older one, *Pereunt et imputantur.*

“Remember Death! for now my tongue
To sing of Death shall tuned be:
Remember Death! which else ere long
Will to thy pain remember thee.
Remember Death! whose voice doth say,
This night a man, to-morrow clay.

“Remember Death no truce hath made,
A year, a month, or week to stay;
Remember how thy flesh doth fade,
And how thy time doth steal away.
Remember Death will neither spare
Wit, wealth, nor those that lovely are.

“Remember Death forgoes the dooms
Which due to thy deservings be;
Remember this before it comes,
And that despair oppress not thee.
Remember Death, remember Him
Who doth from death and hell redeem.

GEORGE WITHER.

426. HORA FUGIT: MORS VENIT. *Time passes: death advances.* 1703.

Copied in 1888 from a dial painted on the wall of the old Court House at La Fiera di Primiero. There was a skull crowned by an hour glass in one corner, and a second motto, No. 1238, but both were somewhat defaced.

427. HORA FUGIT, NE TARDES. *Time flies, delay thou not.*

Formerly in the Rue du Petit Musc, Paris.

428. HORA FUGIT VOS PŒNITEAT SI TRANSIT INANIS
NAM QUÆ PRÆTERITA EST HORA REDIRE NEQUIT.

*Time flies, repent ye, if it wasted goes,
For time that has passed never can return.*

In the garden of Notre Dame des Anges, formerly a convent of the Récollets, at Landecla, near Abervrach (Finistère).

429. HORA HORIS CEDIT, PEREVNT SIC TEMPORA NOBIS:
VT TIBI FINALIS SIT BONA, VIVE BENE.

*An hour yields to hours, so our time perishes:
That thy last hour may be good, live well.*

Many years ago the collector's (Mrs. Gatty's) old and kind friend, the late Lord Chief Justice Tindal, brought over for her from Karlsbad a mysterious inscription, which he had carefully copied in scholarly handwriting. The dial was formed on two sides of the angle of the upper storey of a substantial house in the market-place. The Chief Justice wrote, "The letters which are written in capitals were so in the original inscription, and were coloured red: probably the anagram of some one's name is concealed under them." By consulting that useful oracle, "Notes and Queries," we had the difficulty solved. We suggested that it might be a chronogram, but for the introduction of the letter E. A correspondent replied that probably CEDIT ought to be written CEDIT, when the following numerals could be extracted: MDCCVVVVIIIIIIIIII: MDCCXXX: 1730, which we may suppose to be the date of the building.

It is amusing to record further, that some friends who were staying more recently at Karlsbad, kindly looked for this dial, which they found, but in a dilapidated state. They made out the motto, however, with the help of the Burgomaster of the place, who owned that he had lived opposite to it all his life, but had never noticed it. Nevertheless, he became much interested, and said he would give orders that it should be cleaned and repainted. The Doctor, too, confessed that he had never seen it before, but should henceforth point it out to his patients for their contemplation and improvement.

430. HORA OMNIS TEMPUS SENEX TUA MUNERA LAUDANT
EGRIS HINC FLUIT ALMA SALUS.

This motto is difficult to interpret, but a learned scholar suggests that if *laudant* be read *laudat*, the meaning may be as follows:

*Father Time every hour praises thy bounteous gifts
Since from them the sick obtain kindly relief.*

In the Jardin du Feuillant, Rue St. Honoré, Paris.

431. HORA PARS VITÆ. *An hour is a portion of life.*

J. Wood fecit. 1815. J. James, G. Hearn, Churchwardens.

On a horizontal dial plate, mounted on a stone shaft in Brading Churchyard, Isle of Wight. The shaft is about four feet high, and appears to have been part of a churchyard cross. It stands on three circular steps which are much worn, and shows signs of age. There is a second date, 1715, which may have belonged to a previous dial. The motto is also on Kirk Whelpington Church, Northumberland, dated 1764; on the church of St. Eustachius, Tavistock, dated 1814; on Stokesley Church, Yorkshire, dated 1822; on Thursley Church, Surrey; on St. Nicholas' Church, Skirbeck, Lincolnshire; at Charlton, Somerset; at Loddington, Northamptonshire, where it is misspelt;



on a dial formerly on St. John's Church, Glastonbury, but now in the Town Museum; and in Mr. Egginton's garden, South Ella, Yorkshire, with other mottoes. See No. 932.

432. HORA PARS VITÆ, HORA PARS UMBRÆ. *The hour is a portion of life, the hour is a portion of shadow.*

On the plate of a dial in Castleton Churchyard, Derbyshire.

433. HORA RUIT. *The hour hurries away.*

At Val-de-la-Haye, on the Seine, near Rouen.

434. HORA TRADITUR HORA. *Hour passes into hour.*

At Malaucène (Vaucluse).

435. HORAM DUM PETIS SENSIM TUA FATA PROPINQUAT,
HAEC MEMORA ATQUE TIBI NON PERITURA PARA.

*While thou seekest to know the hour little by little thy fate draws nigh:
Remember this, and get thee that which is imperishable.*

At the convent of the Camaldoli, Naples.

436. HORAM DUM PETIS ULTIMAM PARA. *While thou seekest to know the present hour prepare (to meet) thy last.*

At L'Albenc; and on the Maison Gresset, Pierrebrune de l'Albenc (Isère).

437. HORAM PETIS DUM PETIS IPSA FUGIT. *Thou seekest to know the hour; while thou seekest, it has flown.*

At Montcarra (Isère).

438. HORAM QUAM QUÆRIS NESCI AN HORA NECIS. *Thou knowest not if the hour thou seekest be the hour of death.*

On the church at St. Gengoux (Saône et Loire).

439. HORAM SI QUÆRIS HORA LABORIS ADEST. *If thou dost ask the hour—it is the hour for work.*

Château d'Ardenne (Basses Alpes).

440. HORAM SOLE NOLENTE NEGO. *The hour I tell not when the sun will not.*

Copied at Poirino, Piedmont.

441. HORAS HORA DIES MENSES DETRUDIT EUNDO;
BISQUE SENEX SENIS MENSIBUS ANNUS OBIT.

*The hour in its course treads down hours, days, and months:
And in twice six months the year dies, an old man.*

Given in "Notizie Gnomoniche."

442. HORAS IMPLE, UMBRAM RESPICE, OCCASUM TIME. *Fulfil the hours, consider the shadow, fear the sunset.*

On one of four dials, each with a motto (see Nos. 966, 1504, 1548), upon the campanile of the Church of San Crocifisso, near Pieve di Cadore. Copied in 1888.

443. HORAS NON NUMERO NISI SERENAS. *I count the bright hours only.*

This motto is found in several forms, in several languages, and in many places. In England we have it on the old Moot Hall at Aldeburgh, which was built cir. A.D. 1500, though the dial is probably later; on a vertical dial over the front door of Bell Hall, near York, dated 1680; at Highclere, Newbury; in a garden at Frome, having been removed there from the Rectory Garden at Compton Bassett; at Stoke Edith Park, Worcestershire; and at Ember Court, Surrey (see No. 1238); on a house at Halliford on Thames; on a farm-house, near Farnworth, Lancashire; at Arley Hall, Cheshire (see No. 715); at Horsley, near Stanhope, co. Durham; at Sydnop Hall, Matlock, where the plate is dated 1833, but the pedestal is probably older; at Leam; at West Hill, Cublington; at Reepham, Norfolk; at Dover; in Weavere ham churchyard; once on the West Pier, Brighton (No. 391); at Buckminster Hall, Grantham (No. 1421); on the stable at Old Place, Lindfield, Sussex; on a dial behind the chapel at Harrow, erected to the memory of George F. Harris, formerly a master in the school; at Sackville College, East Grinstead, a building that dates from 1616, but the face of the dial was renewed, and the motto painted on it during the wardenship of the Rev. Dr. Neale (1846-1866): previously it bore the inscription, *Tempus fugit*.

Horas non numero, etc., was inscribed by the late Dr. Hamilton Kinglake on a dial in his garden at Wilton House, Taunton. The pedestal on which it stands is part of a pinnacle taken from the tower of St. Mary Magdalen's church when the building was restored. The stone still stands within the sound of those bells of "old Marlen," that were so exquisitely described by A. W. Kinglake in "Eothen," as being heard by him when he was far away in the Desert. The pinnacle is mounted on a base, and round the sides of this Dr. Kinglake had four lines from Shakespeare inscribed. Unluckily they were only painted on the stone, and are now almost obliterated :

- N. Blow, blow, thou winter wind,
 Thou art not so unkind as man's ingratitude.
 S. Rough winds do shake the darling buds of May.
 E. Night's candles are burnt out, and jocund day
 Stands tiptoe on the misty mountain tops.
 W. Men shut their doors against the setting sun.

In Scotland we find *Horas non numero*, etc., at Charlesfield, Midlothian, with No. 1358 ; at Cadder, near Glasgow (see No. 896). Also at Troquahain, Galloway ; here the dial face is vertical and of metal, dated 1616, the oldest dated dial known in Scotland. The shaft was erected in 1855, and, besides the motto, it bears the initials of the Rev. George Murray, minister of Balmaclellan, and of his wife Elizabeth Hislop Murray.

In Ireland the motto is in a garden at Killiney, with date 1864, and name of Richard Melvin, Dublin, fecit. In France it is at Troyes ; at the Luxemburg ; and in the labyrinth of the Jardin des Plantes. In Buffon's time the motto was on the upper corner of the meridian constructed in the reign of Louis XIV. for the Jardin des Plantes.

The motto is constantly being inscribed on new dials, and though there are several variants, this is no doubt the favourite form. It is alluded to by Sir Arthur Helps in his "Friends in Council" (1st Ser., 1, ii.) : "Milverton had put up a sun-dial in the centre of his lawn, with the motto, '*Horas non numero nisi serenas*,' which gave occasion to Ellesmere to say that for man the dial was either totally useless or utterly false."

In Lord Tennyson's life it is recorded that he intended to put up a dial at Aldworth, and that he had chosen this motto for it.

444. HORAS NON NUMERO, NISI PHOEBO INSTANTE, SERENAS
 MI SOLIS VATI VOX SINE SOLE TACET.

*The hours, unless the hours are bright,
 It is not mine to mark :
 I am the prophet of the light,
 Dumb when the sun is dark.*

This motto and its translation were both composed by the late

W. H. Hyett, Esq., and were placed by him on a dial at Painswick House, Gloucestershire.

445. HORAS NULLAS NISI AUREAS. *I count none but golden hours.*

On a dial designed and placed by A. G. Humphry, Esq., in a garden at Crowborough Cross, Sussex. The motto and hour numerals are in open ironwork on a transparent gilt ground, which becomes golden in sunshine. The dial is vertical, and mounted on a pole. Until the sun lights up the golden background, the hours are not noticed. Hence the double meaning of the motto.

446. HORAS OMNES COMPECTOR. *I embrace all hours.*

One of the mottoes on the dial pillar at Corpus Christi College. See No. 280.

447. HORTUS UTRAMQUE TULIT, NOS ET MEDITEMUR IN HORTO. *The garden bore both, let us also meditate in the garden.*

This motto is on a dial in the Nuns' Garden at Polesworth, near Tamworth. It must be imperfect; and it has been suggested that a previous line may have referred to the two trees of Life and Knowledge in the Garden of Eden. If so, the meaning is clear.

Peculiar interest attaches to the foundation of the Benedictine nunnery at Polesworth. Dugdale gives the following account: "Egbert, king of the West Saxons, built this monastery of nuns, and made his daughter Edith the first abbess, having caused her to be instructed in the Rule of St. Benedict by Modwen, an Irish lady, whom he had sent for out of that country, because she had there cured his son, Arnulf, by her prayers, of a leprosy. King William the Conqueror gave to Sir Robert Marmyon the castle of Tamworth, with all the lands about it, in which was the nunnery of Polesworth. This knight turned out the nuns; but a year after, being terrified by a vision, he restored them, they having retired during that time to a cell they had at Oldbury or Aldbury, given to their monastery by Walter de Hastings. However, the aforesaid Marmyon was afterwards reckoned the founder of Polesworth."

This spot appears to have been the site of the first religious house that was planted in the centre of England, and one of the first that found a local habitation in the kingdom. The name of the foundress is still preserved in the neighbourhood. This parish church of Burton-upon-Trent is dedicated to the joint names of St. Mary and St. Modwenna. The site of her chapel is still called "St. Modwen's Orchard," and "St. Modwen's Well" was celebrated, two hundred years ago, for the sanatory properties of its water. The nunnery became the place of education to which the young ladies of the highest families were sent before they entered the society of the world.

The nunnery was dissolved in 1539, when Sir Francis Nethersole became possessed of the conventual lands, and built the hall out of the

ruins of the nunnery. It is supposed that the dial was then erected in the centre of a square garden on the site of the cloisters. It is now placed on the corner of an old wall, as if to get it out of the way. The garden has disappeared, but the spot is still an orchard with a pretty green sloping to the river side. As to the construction of the dial: there is a projecting base surmounted by several courses of wall stone on which is the principal object. This consists of a curved pediment of stone, supporting a square block, on the east side of which is represented a tomb: below is the motto, and on a scroll above are the words, "Non est hic: surrexit"—*He is not here: he is risen.* The top is finished off so as to correspond with the pediment, and contains the Nethersole coat of arms. Among the devices are the Death's head and cross bones: also an apple, which seems to identify the reference in the motto with—

"The fruit
Of that forbidden tree, whose mortal taste,
Brought death into the world, and all our woe."

448. HORULA DUM QUOTA SIT QUÆRITUR HORA FUGIT. *While one asks what the little hour is, the hour flies by.*

On a dial plate which was found in 1889 on a shelf in a cottage in Kirk Arbory, Isle of Man. It had, at some unknown date, been taken from the churchyard, where the pedestal still stood, and where, it is hoped, the dial has ere now been replaced. The motto was formerly on a dial in Rushen churchyard, but the present one, dated 1829, bears no inscription.

448*. HOW LONG IS TIME? ASK THOU OF ME:
HOW FLEET IS TIME? I ASK OF THEE.

On a wooden dial attached to the wall of an old house in the village of Lumbutts, among the hills near Todmorden.

449. HOW WE GO
SHADOW SHOW.

On a dial at Woodville, Leicestershire, belonging (in 1889) to John Shefford, Esq. The motto was devised by Rev. E. Z. Lyttel, vicar of Woodville.

450. I ALSO AM UNDER AUTHORITY.

This motto has on two occasions been appropriately placed on sundials dedicated to the memory of soldiers. Robert Pearse, Esq., H.E.I.C., had a summer-house in his garden at Perridge in the parish of Pilton, Somerset, on which was a dial bearing on the top the above text, and below, from Shakespeare's Sonnet CXVI:

"Love's not Time's fool, though rosy lips and cheeks
Within his bending sickle's compass come;
Love alters not with his brief hours and weeks,
But bears it out even to the edge of doom."

The dial was dedicated to the memory of a brother officer who died in India, but no record remains of his name. Mr. Pearse died in 1830, his property passed into other hands, and the summer-house was pulled down.

In 1896 some members of the Guinness family joined with the late Rev. Beauchamp Kerr-Pearse, rector of Ascot, a nephew of Mr. Robert Pearse, in erecting a memorial on a buttress of Ascot church, in memory of their two relatives Colonel Wolfran Guinness, C.B., and Claude Guinness. It consists, as will be seen from the illustration (Plate VIII.), of a reclining dial bearing the motto, *I also am under authority*; below which is a lamp inscribed:

*Thou art my Lamp, O
Lord.
The Lord shall lighten
my darkness.*

with the date of erection, 1896. The memorial is intended to incorporate the three kinds of light, (1) natural, on the dial, (2) artificial, by the lamp, (3) *supernatural*, in the inscription.

Colonel Guinness served with the Seaforth Highlanders throughout the Afghan war of 1878-1880, and the Egyptian campaign of 1882, was frequently mentioned in despatches and was made C.B. He died at the age of fifty-five, having spent thirty-three years in the service. The career of his brother Claude was scarcely less distinguished: he was at Winchester, and was captain of the Eleven in 1869 and 1870; in 1870 scholar of New College, taking second class in moderations, 1872, and in classics, 1874. He was for some years managing director of the great Guinness brewery, and died at a comparatively early age, after a life of unsparing work and unselfish activity.

In the late Mrs. Alfred Gatty's "Book of Emblems" there was an illustration of a sun-dial with the motto *Non rego nisi regar*. (See No. 816.) She gave as its English equivalent the text *I also am under authority*, and drew the lesson of her "Emblem" from it. The same teaching has also been finely worked out by Rudyard Kipling in



FROM THE "BOOK OF EMBLEMS."

"McAndrews' Hymn" where he leads the old Scotch engineer who had lost the thread of his childhood's faith to find it again amid the throbbing notes of his engine hammers :

"True beat, full power, the clangin' chorus goes
Clear to the tunnel where they sit my purrin' dynamos.
Interdependence absolute, foreseen, ordained, decreed,
'To work, ye'll note, at any tilt an' every rate o' speed.
Fra sky-light lift to furnace bars, backed, bolted, braced, an' stayed,
An' singin' like the mornin' stars for joy that they are made ;
While, out o' touch o' vanity, the sweatin' thrust-block says :
'Not unto us the praise, O man—not unto us the praise !'
Now a' together, hear them lift their lesson—theirs an' mine ;
'Law, Orrder, Duty, an' Restraint, Obedience, Discipline !'
Mill, forge, an' try-pit taught them that when roarin' they arose,
An' whiles I wonder if a soul was gied them wi' the blows.
Oh for a man to weld it then, in one trip-hammer strain,
Till even first-class passengers could tell the meanin' plain !"

451. I AM A SHADE, A SHADOW TOO ART THOU :
I MARK THE TIME, SAY GOSSIP, DOST THOU SOE ?

At the Manor House, Chew Magna, Somerset. The lines are also to be found in "Vignettes in Rhyme," by Austin Dobson.

452. I AM A SHADOW, SO ART THOU :
I MARK TIME, DOST THOU ?

Inscribed on a dial in the Grey Friars churchyard, Stirling ; and in 1884 placed on West Lodge, Carthorpe, Yorkshire. (With No. 464.)

453. I COUNT NONE BUT SUNNY HOURS. Erected 1863.

Dial in the Fort, Delhi.

454. I COUNT THE BRIGHT HOURS ONLY.

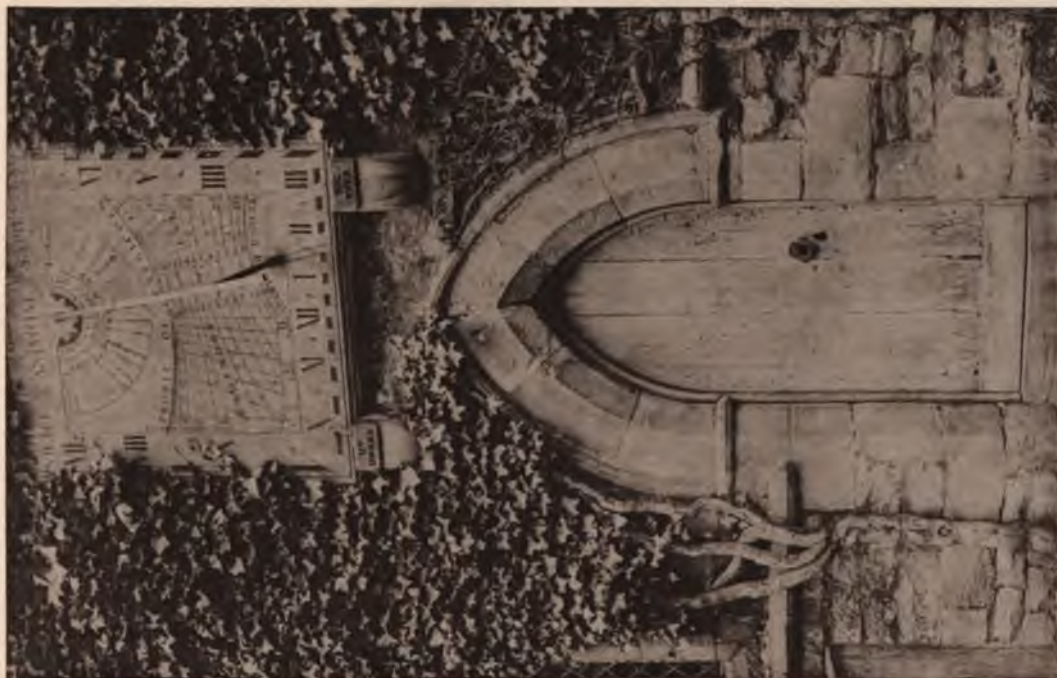
At Portway Hall, near Oldbury. On a fine dial engraved in 1898 by F. Barker and Son, London, for the Skinners' Almshouses, and inscribed : "Presented to the Skinners' Almshouses, Palmer's Green, by Henry Luke Hansard, Esq., Master 1893-4." The Arms of the Skinners' Company and the motto, TO GOD ONLY BE ALL GLORY, are also on the plate. A slightly different version was on Prince Albert Victor's dial. See No. 1306.

455. I COUNT THE SUNNY HOURS.

On a dial recently erected on the house of Capt. Hart, Grove Lane, Handsworth.

456. I GIVE MEN WARNING HOW THE HOURS FLY,
FOR MEN ARE SHADOWS AND A SHADOW I.

At Esher Place, Surrey, the seat of Sir Edgar Vincent, K.C.M.G.
—"Country Life," Jan. 6, 1900.



EYAM CHURCH.

(See No. 511, p. 295.)



ASCOT CHURCH.

(See No. 450, p. 285.)

457. I MARK NOT THE HOURS UNLESS THEY BE BRIGHT,
I MARK NOT THE HOURS OF DARKNESS AND NIGHT,
MY PROMISE IS SOLELY TO FOLLOW THE SUN,
AND POINT OUT THE COURSE HIS CHARIOT DOTR RUN.

These lines, with No. 813, are engraved upon the pedestal of a dial in the garden of Downham Hall, Norfolk, together with the following inscription :

"Taken from a gun battery on Kelbouroun Spit, at the entrance of the Dneiper, captured by the English and French on Oct. 17th, 1855, being the first fort and portion of territory of Russia proper taken by the allied forces in the war of 1854-55."

The dial is of slate and was presented to the Duchess of Cleveland, who at one time owned Downham Hall, and was erected on a stone pedestal and inscribed by her orders.

458. I MARK ONLY THE SUNNY HOURS.

On a window dial for a south aspect, which was exhibited at a bazaar in Crathie, and purchased, it is believed, for the Queen. Round the dial face was a view in Siena, and below it the inscription : "This dial was fashioned by Oscar Patterson. The same being vitrarius and glass painter inne Glasgowe, shewing the tyme in this tovne." I MARK NONE BUT SUNNY HOURS is at Bournestream House, Wotton-under-Edge. The date of the house is 1614.

459. I MARK THE MOMENTS TROD FOR GOOD OR ILL.

At The Priory, Warwick, with the initials T. H. and date 1556. The date, however, is that of the house, the dial being modern.

460. I MARK TIME, DOST THOU ?

On a pedestal dial in the garden of Cubbington Vicarage, co. Warwick, erected in 1847. Also on the south gable of Elmhurst, Rugby, erected by Mr. Hunter, the owner. The dial-face is supported by graceful figures of Night and Day in low relief ; the former is shrouded in a mantle, the latter holds a bird on her finger.

461. I NOTE THE BRIGHT HOURS OF DAY.

Over the entrance door of Copthorne Hall, Shrewsbury.

462. I NUMBER NONE BUT SUNNY HOURS.

At Galtfaenen, North Wales.

463. I ONLY MARK BRIGHT HOURS.

A horizontal dial, mounted on a square stone pedestal, which stands in the gardens of Kiplin Hall, Yorkshire, bears this motto. It was

inscribed and erected by the late Countess of Tyrconnel. The motto is also on a vertical dial at Messrs. Barker's works, No. 12, Clerkenwell Road, London.

464. I SPEAK NOT, YET ALL UNDERSTAND ME WELL,
I MAKE NO SOUND AND YET THE HOURS I TELL.

These lines, Dean Alford's paraphrase of No. 1139, were placed, with No. 452, on a vertical dial on West Lodge farmhouse, near Carthorpe, Yorkshire, in 1885, by the late G. J. Serjeantson, Esq.

465. I STAND AMID Y^e SUMMERE FLOWERS
TO TELL Y^e PASSAGE OF Y^e HOURES.
WHEN WINTER STEALS Y^e FLOWERS AWAY
I TELL Y^e PASSINGE OF THEIR DAYE.
O MAN WHOSE FLESH IS BUT AS GRASSE
LIKE SUMMERE FLOWERS THY LIFE SHALL PASSE.
WHILES TYME IS THINE LAYE UP IN STORE
AND THOU SHALT LIVE FOR EVER MORE.

Sent to Mrs. Gatty in 1860 for her collection, by her friend the Rev. Greville J. Chester, as being inscribed on the four sides of a dial in the garden at S. Windleham. It was an ingenious practical joke, as the motto was invented for the occasion, but the lines were so pretty and quaint that she was loath to let them pass away unrecorded.

466. I STAY FOR NO MAN.

On a house at Colley Weston, Northants.

467. I WISH THE SUN WOULD SHINE, ON ALL MEN'S FRUITS AND FLOWERS,
AS WELL AS MINE.

In the Earl of Crawford's garden at Balcarres, Fife, there is an ancient pillar dial with many faces cut upon its sides. It has been mounted on a base of four steps, and the motto is carved on the lowest of them.

468. ICH DIEN. *I serve.*

On a dial in the garden at Menwith Hill, Darley, Yorkshire, with Nos. 1147, 1530.

469. ICH ZAEHLE NUR DIE HEITERN STUNDEN. *I count the bright hours only.*

On an iron octagonal dial, 13 inches diameter, made by Moellingen, Berlin.

470. ICH ZEIGE NUR DIE HEITERN STUNDEN. *I show the bright hours only.*

In the Zoological Gardens, Berlin.

471. ICI FRAPPE À TOUTE HEURE. *Striking here at all hours.*

Over the door of a blacksmith's forge at Réaumont (Isère).

472. ICI TU VERRAS L'HEURE,
ET PLUS BAS TON DEMEURE.

*Here see the hour upon thy road,
And over there thy last abode.*

On a house opposite the Cemetery at St. Savin (Isère).

473. IF MY MASTER USE ME WELL
I'LL TRY ALL OTHERS TO EXCEL.

On a small brass ring dial in the Exeter Museum.

474. IF O'ER THE DIAL GLIDES A SHADE, REDEEM
THE TIME; FOR, LO, IT PASSES LIKE A DREAM.
BUT IF 'TIS ALL A BLANK, THEN MARK THE LOSS
OF HOURS UNBLEST BY SHADOWS FROM THE CROSS.

These lines were written by the Rev. R. W. Essington, and inscribed on a dial in the form of a cross, which he placed on a pillar in Shenstone Churchyard, near Lichfield, in 1848. The pillar had previously borne a dial-plate of simple form, but this had been lost. Mr. Essington also erected a cross-dial in the garden of Shenstone Vicarage, with No. 1263 as a motto, and both were copied from a cross-dial at Highlands, near Calne, Wilts. After leaving Shenstone Mr. Essington went to live at Plen, Newquay, Cornwall, where he has placed a cross-dial in front of his house, inscribed with a slightly different version of the lines above. See No. 1369.

A cross-dial bearing Mr. Essington's lines (No. 474) was made and presented to the Museum Gardens at Lichfield, by Mr. Hopcraft, stonemason in the city. The same lines, with slight verbal alterations, are on a beautiful little white marble cross-dial, mounted on a red sandstone pillar, which was placed over a child's grave in the churchyard of North Collaton, Devon, about the year 1857.

475. IGNOTUM TIME. *Fear the unknown.*

With Nos. 862, 980, in the Passage du Petit St. Antoine, Paris.

476. IL EST PLUS TARD QUE JEUNESSE NE PENSE,
TÔT OU TARD IL FAUT MOURIR
AVARE PENSEZ V.

1758

*Youth doth not think how fast the moments fly,
Greedy of life, remember thou must die.*

On a circular vertical dial at Pelvoux (Hautes Alpes).

P P

477. IL EST PLUS TARD QUE TU NE PENSE,
PRENDS GARDE À TOI, TON HEURE S'AVANCE.

*Time moves apace while here we stand,
Beware, O man! thine hour's at hand.*

Formerly in the Faubourg St. Antoine, Paris. The first line is on a house on the roadside between Valbonne and the Grande Chartreuse; and on the churches at Roche and St. Savin (Isère).

478. IL EST PLUS TARD QUE VOUS NE CROYEZ. 1851. Z. G. F. *It is later than you think.*

At Abriès (Hautes Alpes).

479. IL (F)AUT (ÉVITER LA RE)TARD. *We must not be late.*

In an old courtyard, Rue Contrescarpe, Paris. In 1883 the motto was almost obliterated, but the missing letters were supplied by Baron de Rivière.

480. IL FAUT PARTIR TÔT OU TARD. *Sooner or later all must go.*

Formerly on the Bureau des Messageries, Rue Contrescarpe, Paris. It was the place whence the mails and the diligences used to start, so the double meaning of the motto is evident.

481. IL LUIT POUR TOUT LE MONDE. *It shines for all the world.*

See No. 541. In 1864 this motto was, with the picture of the sun, on the sign of an inn at Viviers. Above the door was written:

"Aujourd'hui comptant, demain credit!"

482. IL NE SAURAIT TROMPER,
C'EST LE CIEL QUI LE RÈGLE.

Heaven is its guide, it cannot go wrong.

In the Court of the Evêché, Angoulême.

483. IL PASSATO FUGGI, FUGGE IL PRESENTE,
VERRÀ FUGGENDO L'AVVENIR REPENTE.

*The present flies, fled is the past,
The future comes, with flight how fast!*

On the church wall at Campitello, in the Italian Tyrol.

484. IL TEMPO AVARO OGNI COSA FRACASSA,
IL TEMPO ANNULA OGNI GRAN FAMA IN TERRA,
OGNI COSA MORTAL COL TEMPO PASSA.

*Envious Time destroys all things,
It obliterates all earthly fame;
Whatsoever is mortal passes away with Time.*

Dean Burgon, writing to "The Guardian," February 26th, 1874, an account of the ancient inscriptions at Ravenna, concluded his letter with the above lines, copied from a sun-dial on the façade of the church of

St. Apollinare in Classe, and which, after wandering over the scenes of vanished greatness around the old city, struck him as possessing peculiar interest. "After traversing," he says, "for miles the level plain outside Ravenna, and noting with interest the heaps of flat, rounded pebbles, alternating with heaps of *detritus* from the Bosco—which record the nature of the change which has passed over the entire aspect of the country—the humble words inscribed on this sun-dial struck me very forcibly." The motto is now entirely effaced.

485. IL TEMPO FUGGE ANCHE AI SOLLECITI. *Time, even to the care-worn, flies apace.*

On the Palazzo del Marchese Scalzi, Via dei Servi, Florence.

486. IL TEMPO FUGGE E NON S'ARRESTA UN ORA. *Time flies and stays not an hour.*

On Casa Bacci, in the Piazza at San Marcello Pistoiese, Italy. The line is slightly altered from that of Petrarch :

"La vita fugge e non s'arresta un ora."

487. IL TEMPO PASSA, E L'ETERNITÀ S'AVVICINA. *Time passes away, eternity draws near.*

With No. 790 on a dial at Riva, Val Sesia, dated 1829.

488. IL TRAVAILLE TOUJOURS, MÉNAGERS, IMITEZ LE. *It works without ceasing; labourers, follow its example.*

On the farmhouse of St. Barnabé, near Sillans (Var).

489. ILLE EGO SUM, LONGUM QUI METIOR ANNUM,
OMNIA QUI VIDEO, PER QUEM VIDET OMNIA TELLUS,
MUNDI OCVLUS.

I am he that measures the length of the years, that seeth all things;—through whom the earth seeth all things; the eye of the universe.

On a white freestone dial, inserted in the gable of an Early English porch at Wootton Church, Oxon, with the initials and date as follows : "R. H., 1623, J R. Ch. Wa." The motto is taken and altered from Ovid's "Metamorphoses" :

"Ille ego sum, dixit, qui longum metior annum,
Omnia qui video, per quem videt omnia tellus,
Mundi oculus." (Book iv., 226.)

490. ILLUMINAT UMBRA. *He gives light with a shadow.*

At a village on the Lake of Como, copied 1897.

491. ILLUSTRAT ET URIT. *He gives light, and burns.*

Formerly in the Cour du St. Esprit, Paris.

492. IMITONS LE, TRAVAILLONS SANS RELÂCHE. *Let us imitate (the sun); let us work unceasingly.*

At Quinsons (Basses Alpes).

493. IMMINET MORS. *Death is upon thee.*

Formerly in the convent garden of the Petits Augustins, Paris.

494. IMMOTUS VERTO. *Without moving, I turn.*

At Sylve Bénite (Isère).

495. IMPARI L'UOMO AL NUMERAR DELL' ORE,
CHE QUANTO LI VIVE PIÙ, TANTO PIÙ MUORE.

*Learn, mortals, from this tale of hours told,
Death is more certain than the life ye hold.*

Given in "Notizie Gnomoniche."

496. IMPROVE THE PRESENT HOUR, FOR ALL BESIDE
IS A MERE FEATHER ON A TORRENT'S TIDE.

Copied by Juliana H. Ewing from a dial on a wooden pedestal, shaped like a nine-pin, which stood in the garden of Rose Cottage, Fredericton, New Brunswick, in 1867. Mrs. Shore, who then owned the house, was a great friend of Mrs. Ewing, and frequently mentioned in the latter's letters. In October, 1867, she wrote to Mrs. Gatty: "I have got you a dial, and mean to make you a sketch and send it herewith. It is in the garden of a little old lady here, Mrs. Shore. She is very tiny and very old. She goes to the 7.30 Service like clockwork, has a garden, paints life-sized portraits in oils!! and complains that, 'between housekeeping, literature, and the fine arts, she never has time for anything.'" A grandson of Mrs. Shore, R. Pennefather, Esq., has written recently about the dial from Sinzig am Rhein, as follows: "When my mother and I last went out to Canada, she missed the sun-dial, though the pedestal was still standing. The house (Rose Cottage) had been let to various people, and we supposed it had been 'annexed.' One day, Mother wanted some horse-radish, and, as that newly laid down in the garden was not yet large enough for use, I volunteered to try and dig for some, having noticed some leaves like that behind an old stable the year before. I dug down about 2 or 3 feet before I got a good thick piece of root, and threw up an old silver button with the Fleur-de-lys on it. (The house was the oldest in the town, and had been the original Governor's when Fredericton was an old French post under Louis le Grand.) Of course, that set me grubbing away, and what should come to light? The plate of the sun-dial mentioned above. The gnomon, or style, was missing, but the plate now lies on the table before me. It was made for par. 46, but evidently of English workmanship. The date is 1826. I do not know whether it was put up by my great-grandfather, old Chief Justice Saunders, or by his widow. He raised a troop of hussars at the breaking out of the 'War of Independence,' and fought for the King all through the war. He was given large tracts of land in New Brunswick to replace

his estates in Maryland, etc., confiscated by the rebels. The old house is no more. The railway passes right over the site, and all the old carved butternut mantel-pieces, doorways, etc., have passed away in smoke, and all I have left of the old home is a photograph and *the sun-dial.*"

497. IMPROVE THE TIME. 1765.

On an oval dial on the Unicorn Inn at Uppingham; and on Market Harborough Church, dated 1850.

498. IN COELO QUIES. 1793. *In heaven is rest.*

On a vertical dial affixed to the wall of Glaisdale Church, Yorkshire.

499. IN HIS OWN IMAGE THE CREATOR MADE,
HIS OWN PURE SUNBEAM QUICKENED THEE, O MAN!
THOU BREATHING DIAL! SINCE THY DAY BEGAN
THE PRESENT HOUR WAS EVER MARKED WITH SHADE.

Written by Walter Savage Landor as a motto for a dial, but it is not known whether it has been adopted.

500. IN HORA NULLA MORA.

*In hours of day
Is no delay.*

In the Rectory garden at Micheldean. See No. 354.

501. IN LUCEM OMNIA VANA. *All things are vanity (when brought) into the light.*

At Biella-alta, in Piedmont; and on a house at Ville Vallouise. See No. 133.

502. IN OMNIBUS REBUS RESPICE FINEM. *In all things look to the end.*

This line, from Thomas à Kempis, was inscribed on a pedestal-dial in the garden of Crowder House, Ecclesfield, Yorkshire, by the late Bernard Wake, Esq., the owner. The house formerly belonged to a yeoman family named Wilkinson, who had held the land for more than four hundred years, one Julyan Wilkinson, of Crowder House, being named in an existing deed which bears the date 1402.

503. IN REASON'S EYE THY SEDENTARY SHADOW TRAVELS HARD. 1819.

On a dial which once stood at Port Elphinstone, Aberdeenshire, but is now at Ardkeen, Inverness.

504. IN SUCH AN HOUR AS YE LOOK NOT FOR, THE SON OF MAN COMETH. 1793.

Was on a plain oval dial on the south porch of Bakewell Church,

Derbyshire, but when last heard of, in 1888, the motto was nearly obliterated.

505. IN SUCH AN HOUR AS YE THINK NOT
THE SON OF MAN COMETH.

Ex dono Roberti Watson. Ann. Dom.

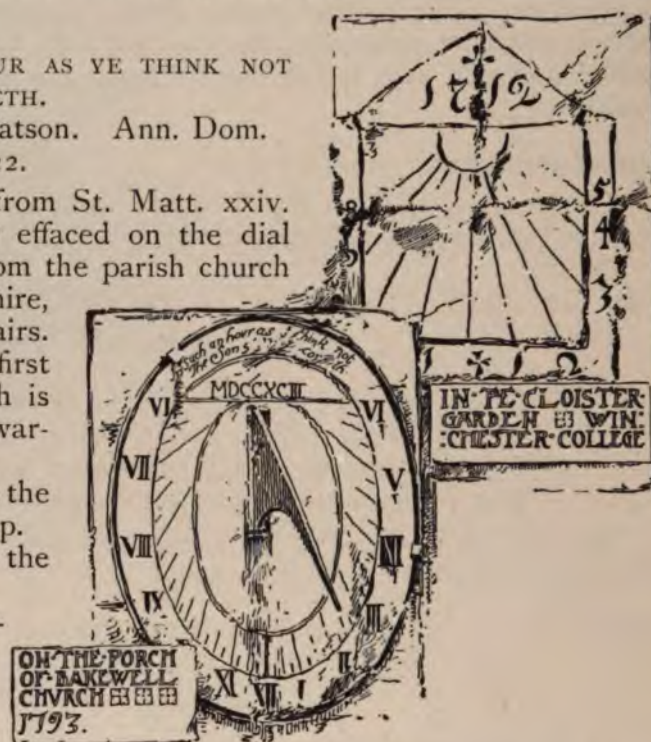
1722.

This inscription, from St. Matt. xxiv. 44, was found nearly effaced on the dial which was removed from the parish church of Wakefield, Yorkshire, in 1881, during repairs. That it was not the first sun-dial on the church is shown by the Churchwardens' accounts :

1592. The dyall in the Churchyard was sett up.

1595-96. Diall in the steeple.

1597. A new sun-diall set up.



506. IN THE HOURE OF DEATHE GOD BE MERCIFUL UNTO ME.
FOR AS TYME DOTH HASTE
SO LIFE DOTH WASTE.

In front of Stanwardine Hall, near Baschurch, Shropshire, a fine old Elizabethan mansion, now converted into a farmhouse, stands a



STANWARDINE HALL, NEAR BASCHURCH.

pillar-dial, having a silver plate, on which these and other inscriptions are engraved. The dial is circular and horizontal, drawn in a square ; and the four vacant corners of the square are occupied by the above two couplets we have given ; and below, on one side, by an elephant with a castle

on his back ; and in the opposite corner is a squirrel sitting up and

eating. In the centre of the plate there is a stanza of four lines (see No. 375), and beneath is a bird on a shield, with the date, "anno 1560." Stanwardine Hall belonged to the Corbet family, from which it passed to the Wynnes, and it is now in other hands. The elephant and squirrel are the Corbet crests.

507. IN UMBRA DESINO. *In shadow I cease.*

Seen on the picture of a dial in a scrap-book at Florence.

508. IN UNA SI MUORE.

One of these will be the hour of death.

14 di Febbraio.

On a restaurant at Beaulieu, near Nice.

509. INCESSANT DOWN THE STREAM OF TIME
AND HOURS, AND YEARS, AND AGES ROLL.

On a horizontal dial with stone pedestal in the kitchen garden at Lansdowne Lodge, Kenmare, co. Kerry.

"Time is a river or violent torrent of things coming into being; each one, as soon as it has appeared, is swept off, and disappears, and is succeeded by another which is swept away in its turn."—*Meditations of Marcus Aurelius Antoninus.*

510. INDEX VT VMBRAS SIC TVOS IESV REGIS. 1635.

NESCITIS IN QVA HORA DOMINVS VESTER VENTVRVS, 1635.

*As the gnomon rules the shadows, so dost Thou, O Jesu, rule thine own.
Ye know not at what hour your Lord will come.*

These lines are given in Hunter's "South Yorkshire" as having been "formerly on a piece of marble fixed over a gate," near Darfield Church, Yorkshire. They can hardly have belonged to anything but a sun-dial. The capitals are chronograms, and can be transposed so as to form the date 1635 in each line.

511. INDUCE ANIMUM SAPIENTEM. 1775. *Take to thyself a wise mind.*

May be seen on the south porch of the church at Eyam, Derbyshire. The place is renowned for a terrible visitation of the Plague which nearly depopulated it in 1666; still more so for the gallant conduct of its rector, the Rev. William Mompesson, who, with his wife, remained at home tending the sick, burying the dead, and inducing his people to keep within their narrow valley, so that the disease spread no further. Mr. Mompesson lived through the visitation, but his wife and 258 other people died. See Plate VIII., p. 286.

The dial is very elaborate, and has the tropics of Cancer and Capricorn marked upon it; also the names of various places, showing their difference from English time, and "W^m Lee, Th^{os} Froggatt, Church Wardens." The face has recently been restored, and the further motto *Ut hora sic vita*, added below.

512. INSTAR GLOBI STAT MACHINA MUNDI. *Like a ball stands the framework of the world.*

At Moccas Court. See No. 1469.

513. INSTAT FORTE SUPREMA. *Perchance the last hour is drawing near.*
In the kitchen garden of the former convent of the Célestins, Paris.

514. INTRA ET ADORA SOLEM QUI NON FACIT OCCASUM. *Enter, and worship the Sun which setteth not.*

Above the church door at Villedieu (Cantal).

515. INTUS APOLLO SOL EXTRA. *Apollo within, the Sun outside.*

SOUS MES DEUX NOMS DANS CES DEMEURES,
MARQUANT TOUR À TOUR MON POUVOIR,
À MIDI JE FIXE LES HEURES,
QUE JE FAIS OUBLIER LE SOIR.

*Two names I have of wondrous power,
By day I mark for you the hour,
At night within these walls you'll find
Time leaves no impress on your mind.*

Motto proposed for a sun-dial on the Théâtre Favart.

516. INVENI SORTEM, SPES ET FORTUNA VALETE,
SAT ME LUSISTIS, LUDITE NUNC ALIOS.

*I have found my destiny, farewell hope and fortune,
You have played with me long enough, now play with others.*

Baron de Rivière tells us that a public official who had retired to a country house near Béziers, after long buffetting with men and circumstances, to enjoy the delights of home and literary pursuits, inscribed this motto on a dial which he placed in front of his house.

517. IO PASSA COMME L'OMBRA. *I pass away like the shadow.*

In the Hameau de la Maladière, near Rives (Isère).

518. IO SEGNO L'ORA E TU RAMMENTE IDDIO. *I mark the hour and do thou think upon God.*

In the Cloister of the Convent of Santa Sabina, Rome.

519. IO SONO UN' OMBRA, OMBRA TU SEI ANCORA;
CONTI TU FORSE, COME IO CONTO, L'ORA?

*A passing shade am I, so too art thou;
I count the passing hours; say, dost thou?*

At the Villino Vanwiller, Milan.

520. IO TI DO L'ORA, SE IL SOL RISPLENDE. *I give the hour, if the sun shines.*

In the Val Mastallone; contributed to "Notes and Queries" (6th S., xi. 45).

521. IO VADO E VENGO OGNI GIORNO
MA TU ANDRAI SENZA RITORNO.
*I go and come every day;
But thou shalt go without returning.*

Copied in 1860 from a house in the Rue de France, Nice. The dial was traced in brown on a white-washed wall. The late Dean Alford translated the motto as follows:

*"I come and go and go and come each day;
But thou without return shalt pass away."*

In 1880 the dial was repainted, and the last part of the motto altered thus:

Ma tu se vai più non ritorni.

But thou, if thou goest, returnest no more.

This new rendering was, in 1888, becoming illegible, owing to the effects of weather upon the thin coating of plaster on which the words were painted, and the original motto could be discerned below. The dial was first set up in 1830.

The same motto has been read at Arma di Taggia; and at Pisa. It is also inscribed on a dial which stands in the Italian garden of the Manor House, Monkton Farleigh, Wilts. This dial was erected by Mr. Wade Browne, a tenant of the manor (1842-57), in memory of his younger brother, who was killed in the Kaffir war. Of this motto on a dial in a Riviera garden, E. V. B. writes: "The music of the words still seems to haunt the soul in opal tinted dreams, whose colour somehow does not fade with the fading lights of other days."—*A Garden of Pleasure*.

522. IPSE SUO CURSU VIRTUTEM MONSTRAT ET HORAS. *Himself in his course showeth both virtue and the hour.*

On an altitude dial in Mr. Evans' collection, which seems to have been made in commemoration of a friendship between Corbin, the Abbot of Scheyern, and Martin, the Prior of Indersdorf (or Undersdorf), in Bavaria. The dial is engraved on a gilt brass plate, and elaborately adorned with various emblematical devices. At the top is the sun's face, with arrows for rays, and crowned with a bishop's mitre; possibly this is a portrait of Abbot Corbin, to whom the dial was presented. The motto is on a scroll above the sun. In each corner of the plate there is a flaming heart bearing numerals, as if it were a dial, and transfixes with an arrow for a gnomon. Above these hearts are the following lines:

"His magis Vndenses flammis augentur Amoris;
Non faciunt vulnus vel certe vulnus Amoris."

*By these flames, O men of Undersdorf, Love is evermore increased;
They make no wound, except the wound of Love.*

Along the base of the plate is the couplet :

"Pectora sunt Augustini, sunt tela Sebasti,
Arcus Martini vulnus Amoris erit."

*The hearts are those of Augustine, the darts (arrows) those of Sebastian,
The bow is Martin's, the wound will be that of Love.*

In the centre of the plate there is a building resembling the front of a Greek temple, with arrows as pillars, and a hole at the apex for the gnomon. On this is written :

"Horas designat simul ac demonstrat amorem idem Index."

The pointer indicates at the same time the hours and love.

The back of the plate is engraved for printing universal dials, and this is also elaborately decorated. In place of the "temple" there is a double lyre, over which two pastoral staves are joined in a ring. Two mitres, a sheaf of arrows, and the hilt of a sword also appear, but the "bow of Martin" is not given on either side. Perhaps the presence of arrows presupposes the bow. There is an inscription written on enfolded scrolls in such a fashion that it is difficult to tell in what order the words are meant to follow :

"Abbatis Schirëst Prepos : Vnderst Horologa Concordiæ Bicithera quam Gemino Natali R. R^{um} et Amplissim: Corbini Martini Præsulum Germanorūq̃ fratrū Nouēdiali festo paravit pulsavit obsequiosa manus."

Mr. Evans suggests that the meaning of this may be somewhat as follows :

The dial of love in the shape of a double lyre which a dutiful hand made and struck (as a lyre) for the double birthday of the Abbot of Scheyern Corbin, and the Prior of Indersdorf Martin, very reverent and important chiefs of the German Brothers, on their nine day festival.

It does not seem quite clear whether the "festival" was actually the day on which the friends were born, or the festival of their patron saints. At the base of the lyre where the staves unite in the ring is inscribed :

"Obliget æternis fratres hic annulis annis."

May this ring bind the brothers together for evermore.

523. IRREPARABILE TEMPUS. *Time cannot be retrieved.*

At the Certosa dei Calci, near Pisa.

524. IRREVOCABILE. *(Time) cannot be recalled.*

On Little Milton Vicarage, Oxon; and also with No. 114 on a vertical dial lately fixed on a new wing at Holmhurst, Sussex, by Mr. A. J. C. Hare.

525. IRREVOCABILIS HORA, 1842. *The hour that cannot be recalled.*

Copied in 1860 from the toll house on the Pont du Siagne, near

Cannes. The dial was vertical and painted in white on a yellow wall, and over the door were the words, "*logement du garde du pont.*" The motto was also read in the same year, roughly written, and mis-spelt, with date 1850, on a south dial over the door of a shed in the Vallée de Gourdalon, two miles from Cannes.

526. IRREVOCABILIS LABITUR HORA.
 NULLI OPTABILIS DABITUR HORA.
 NE SIS INUTILIS SEMPER LABORA,
 NE TU SIS FUTILIS, VIGILA, ORA.
*Never returning
 Hours glide away,
 Thou, though much yearning
 Canst not delay.
 Labouring, learning,
 Spend thou thy day,
 Indolence spurning
 Watch thou and pray.*

This motto was written by the Rev. S. E. Bartleet. It is identical with No. 852, though the lines have been altered in arrangement. The verse has been inscribed by Messrs. Barker and Sons on a dial made by them for a house at Cawley Wood, Essex. The English rendering was written by Sir Herbert Maxwell and printed in "Blackwood's Magazine," 1891.

527. ISTA VELUT TACITO CURSU DILABITUR UMBRA,
 TRANSIT IN AETERNOS SIC TUA VITA DIES.
*As that shadow glides away with silent passage,
 So thy life passes into the days of eternity.*

This was read somewhere in Tuscany.

528. IT IS A LIGHT THING FOR THE SHADOW TO GO DOWN TEN DEGREES ;
 NAY, BUT LET THE SHADOW RETURN BACKWARD(S) TEN DEGREES.

With No. 1647 on an elaborate dial erected in 1840 in the gardens of Bredisholm, near Glasgow. The quotation is from 2 Kings, xx. 10.

529. ITA VITA. *Such is life.*

At Porchère (Basses Alpes) ; and also on a dial represented in one of Bewick's illustrations to "Æsop's Fables."

530. ITALICUM SIGNAT TEMPORA SACRA DEO.
 AD LATITUD. GRADUM XLII.
 SEDENTE . GREGORIO XVI . PONT . MAX . PONTIFICATUS . SUI . ANNO
 XIII . ANTONIVS MATTEVCCIUS . CURATOR . OPER . TEMPLI . VATI
 CANI . ADSCITA . OPERA . IOANNIS . ANTONII . TEPPATI . HOC .
 HORARIUM . INDICE . COMODUM . ORNATUMQ . AUXIT.

An Italian (dial) shows times sacred to God.

The inscription states that in the thirteenth year of the pontificate

of Gregory XVI., Giovanni Antonio Teppati restored and embellished this dial, by the order of Antonio Matteucci, clerk of the works of the church of the Vatican. The dial is a large horizontal one of white marble placed on the balustrade which surrounds the roof of the nave of St. Peter's at Rome. It tells the hours from x to xxii, following the old Italian method by which the twenty-four hours are counted from the ringing of Ave Maria, half an hour after sunset. This dial, and its companion, No. 342, placed on the corresponding corner of the balustrade, are remarkable from their position, standing as they do at more than a hundred and fifty feet above the ground. Probably no other dials in the world have been raised so high. Their use is, however, undeniable. The roof of St. Peter's is a village in itself. "There are," says Mr. Wey, "workshops, huts, sheds for domestic beasts, a forge and carpenter's stores, washhouses, ovens. For several families it is a native land. The workmen of St. Peter's, called San Pietrini, succeed one another from father to son, and form a tribe. The natives of the terrace have laws and customs of their own," and as it appears, their timekeepers also.

The hours are marked in Roman numerals. The motto, probably, refers to the Italian hours, which are shown on this dial as the ordinary ones are on its fellow. It recalls a saying suggested by the sight of a clock on a northern cathedral:

"I was thinking," said I, "why it was that men placed clocks in the towers of churches."

"That is easily answered, man; to teach you that Time is a sacred thing." ("Old Church Clock".)

531. ITQUE REDITQUE VIAM CONSTANS QUAM SUSPICIS UMBRA,
UMBRA FUGAX HOMINES NON REDITURA SUMUS. (P. P. Teatini.)

*Goes and returns the shade in its unerring track,
A fleeting shade are we and no return is ours.*

Given in "Notizie Gnomoniche."

532. JAM INCLINATA EST HORA. *The hour is now far spent.*

This motto is written on an illustration in a French MS. on dials in the possession of Lewis Evans, Esq. The MS. appears to have been written at Nancy in the first half of the eighteenth century.

533. JAM PROPERA, NEC TE VENTURAS DIFFER IN HORAS
QUI NON EST HODIE, CRAS MINUS APTUS ERIT.

*Haste now, nor until coming hours delay,
Less fit to-morrow he unfit to-day.*

On a house near Newton House Woods, near Whitby. The first line is above, the second below the dial face. They are from Ovid, Rem. Amor. 93, 94. See Nos. 1043, 1601.

534. J'ATAN L'EURE (*sic*) (J'ATTENDS L'HEURE). *I await the hour.*

Seen in Dauphiné. Another curiously spelt version of the same motto was read on the Château of the Cité de Carcassonne, *Je attends levre.*

535. J'AVANCE. *I go forward.*

On a horizontal dial in the garden at Hall Place, Berks. It is the family motto of Sir Gilbert East, Bart., the owner, whose crest is a horse passant, sable. The same inscription has been placed on the gnomon of a horizontal dial lately put up at Lyndhurst, Hants. The arms of the owner, Mr. Penton, are engraved on the plate, and the maker's name, F. Barker.

536. JE CHANTERAI
QUAND TU SONNERAS.

I will crow—when thou wilt strike.

At Noves (Bouches du Rhône), a cock and hen are depicted on the dial, and chanticleer speaks. Cp. No. 667.

537. JE CHERCHE MIDI. *I seek noon.*

Inscribed below a dial in the Rue du Cherche Midi, Paris. The street has borne this name since 1595, and probably owes it to the sun-dial, which now is on a stone slab in the wall of a house, with a bas-relief of a man tracing a sun-dial from which the noon-day line and figure XII are absent, and which bears the words "au cherche midi." Beside these is a child representing either the little god Cupid, or the Genius of Day. The reference, of course, is to the Italian hours, which were counted from sunset to sunset, and when these were in common use the phrase "chercher midi à quatorze heures," would be readily understood. It signified to waste time in a vain folly, to seek for the impossible—for though the hour of noon might fall at sixteen, seventeen, or eighteen o'clock, according to the hour of sunset and the time of year, it could never in these latitudes be at fourteen. There is a story told of Voltaire that in passing through a village where the inhabitants were putting up a sun-dial, he was intreated to give them a motto, and accordingly wrote the following *impromptu*:

"Vous qui venez dans ces demeures,
Etes vous bien? tenez vous y,
Et n'allez pas chercher midi
A quatorze heures."

538. JE DONNE LA LUMIÈRE À LA GLOIRE DE DIEU. *I give light to the glory of God.*

With No. 595, formerly in the garden of the convent of Capuchin nuns in the Place Vendôme, Paris.

539. J'EN VOIS PASSER PLUS D'UN. *I see more than one pass away.*

On the cemetery chapel, Mirepoix (Ariège).

540.

JE FAIS MA RONDE
POUR TOUT LE MONDE.

*For every one,
My course I run.*

At Charnècles (Isère).

541.

JE LUIS POUR TOUT LE MONDE,
MON OMBRE PASSE AVEC VITESSE,
ET TA FIN APPROCHÉ AVEC RAPIDITÉ, O MORTEL.

*I shine for all the world,
My shadow passes on swiftly,
And thy end rapidly approaches, O Mortal.*

F M. 1833.



AN INN IN ROUGEMONT.

Copied in 1866 from a sun-dial over the door of the village inn at Rougemont, Canton de Vaud, Switzerland. The sun's full face, surrounded by rays, with the gnomon projecting from the centre, shone from the upper part of the dial. Beneath this was the first motto, and the other two lines were under the numerals. The little inn was a picturesque old chalet with a deeply carved cornice supporting the overhanging roof. The windows, fitted with little square panes of glass, were small and flanked by solid shutters; and probably only one pane in the whole house could be opened to admit the outer air, so unwelcome to the Swiss domestic hearth. A round-arched porch with thick heavy doors led into the house. Through the inner doorway the hostess could be seen on a seat knitting, and wearing a black silk cap

with lace lappets, while her beehive hat hung on the wall beside her. These are things of the past, probably seen no more. They were the last remains of the picturesque costume of the Canton of Vaud.

The first four words have been read at Nyon.

542.

JE MARCHE SANS PIED,
ET JE TE PARLE SANS LANGUE. 1832.

I walk without a foot, and I speak to thee without a tongue.

At Les Pananches (Hautes Alpes).

543. JE MARQUE LA DERNIÈRE. *I show the last (hour).*

Locality forgotten.

544. JE MARQUE LE TEMPS QUE VOUS PERDIEZ. 1860. *I note the time that you waste.*

On the Château of La Brillane (Basses Alpes).

545. JE MARQUE LE TEMPS VRAI,
L'HORLOGE MARQUE LE TEMPS MOYEN.
*I show the true time—
The clock shows mean time.*

This is inscribed above a dial on a house at Pau, opposite the Halles. Beneath it are the words : " Les horologes et les Cadrans indiquent à quelques secondes près la même heure le 25 x^{bre}, le 15 Avril, le 25 juin, et le 1^{ière} 7^{bre}.

546. JE MESURE LE TEMPS, IMAGE MOBILE
DE L'IMMOBILE ÉTERNITÉ.
Z. G. F. 1840.

I measure time, a moving image of motionless eternity.

At Ville Vieille, Queyras. Also at St. Vêran (Hautes Alpes), signed Z. G. F. (Zarbula), and having a picture of a toucan above on the right, and a fly-catcher on the left.

547. JE NE PUIS RIEN SANS LE SOLEIL,
MAIS QUAND IL LUIT POINT DE PAREIL.
Without the sun I am useless, but when he shines I have no equal.
At Les Cabanes, near Cordes (Tarn).

548. JE NE SAURAIT TROMPER.
C'EST LE CIEL QUI LE RÉGLE.
*Heaven is my guide,
I cannot go wrong.*

In the court of the Evêché, Angoulême.

549. JE PARLE SANS DIRE MOT. 1885. *I speak without saying a word.*
On a house in the Place, Puy-St. Pierre (Hautes Alpes).

550. JE RÉGLE ET CHANGE PAR MON COURS
LE TEMPS, LA FORTUNE, ET L'AMOUR.
*As through my daily course I range
Life, fortune, time itself—I change.*

Once at Boulogne.

551. JE SUIS JUSTE, SOYEZ LE AUSSI. 1811. *I am true, be ye true likewise.*

This inscription is more modern than the date. The dial is near the Grande Séminaire, Moutiers, Savoy. The first half of the motto is on the Curé's house, Brides-les-Bains, Savoy.

552.

JE SUIS LE MESURE DU TEMPS.
TEL QU'ON MESURE ON SERA MESURÉ
Giovanni Borgesio fecit.

I am the measurer of time.

"With what measure ye mete, it shall be measured to you again."

On the Maison-du-Roi, Queyras (Hautes Alpes), with No. 1034.

553.

JE VIS DE TA PRÉSENCE, ET MON UTILITÉ
FINIT EN TON ABSENCE.

I live by thy presence, and my usefulness ends in thy absence.

Copied about the year 1870, near Courmayeur, but the inscription is imperfect, some words at the beginning having been defaced.

554. JE VOUS LA SOUHAITE HEUREUSE. 1810. *May this moment be a happy one for you.*

Rue de la Croix Verte, Albi (Tarn).

555. JUBILATE DEO. June 21, 1887. *Rejoice in God.*

On a dial in the garden at Elm Hall, Wanstead, Essex.

556. JUNGERE EQUOS TITAN, VELOCIBUS IMPERAT HORIS.—Ovid, *Metam.* II.
Titan bids the swift hours yoke their steeds.

Given in "Notizie Gnomoniche."

557. JUSTUS HOMO NON TIMET HORAM QUAM ABSCONDO.

The just man fears not the hour I hide.

At Biviers (Isère).

558. KAIPON ΓΝΩΘΙ. *Know the season.*

Is over a dial placed on the wall of the south transept of Ely Cathedral. The face of the sun seems to emit the lines to the surrounding figures, as well as the gnomon; and between the lines are the signs of the zodiac. There is no date, but the dial is probably older than the clock, which was placed in the tower about the middle of the eighteenth century, and later than the Dissolution, as the chapter-house, which formerly projected from the south face of the transept, is believed to have been destroyed at that time.



WALTHAM RECTORY.

559. ΚΑΤΑΒΑΙΝΟΝ 'ΑΠΟ ΤΟΥ ΠΑΤΡΟΣ ΤΩΝ ΦΩΤΩΝ. *Coming down from the Father of lights.*—St. James, i. 17.

This text is carved on one side of the cap of a stone shaft, surmounted by a horizontal dial, which has been

set up by the Rev. W. Tuckwell in his garden at Waltham Rectory, Lincolnshire. On the three remaining sides of the cap are cut: (1) The arms of Winchester College, with its motto "Manners makyth man"; (2) A line from the *Æneid*, Book VI., 545 (See No. 293); and (3) A shield bearing a cross and crown, and the legend "Servire regnare,"—a device and motto which Mr. Tuckwell has adopted as his own. The device was copied from a seal dug up at Osney Abbey.

560. L'AMBITION EST LA PERTE DE L'HONNEUR. 1825. *Ambition is the ruin of honour.*

At La Bez (Hautes Alpes).

561. LA CHARITÉ NOUS UNIT. *Love unites us.*

On the former convent of the Minimes, Vitry le Français. 1883.

562. LA DERNIÈRE DÉCIDE DE TOUTES. 1792. *All's well that ends well.*

On the church at Les Claux, Vallouise (Hautes Alpes).

563. LA DERNIÈRE EST CACHÉE. *The last is hidden.*

Châteauneuf de Gadagne (Vaucluse).

564. LA DERNIÈRE FAIT LA COMPTE. *Reckoning comes at the last.*

On a house, Route de Versailles, Sèvres.

565. LA DERNIÈRE PEUT-ÊTRE POUR TOI. *Perhaps the last (hour) for thee.*

At Fure (Isère).

566. L'ÉTERNITÉ DÉPEND D'UNE HEURE. *Eternity hangs upon an hour.*

At Annecy (Haute Savoie).

567. LA GLOIRE DU MONDE, PASSE COMME L'OMBRE. 19 Juillet, 1632.

The glory of the world passeth away like a shadow.

On the belfry, Le Pin (Isère).

568. L'HEURE D'AIMER DIEU. 1691. *Now is the time for loving God.*

On the church at Poliéna (Isère).

569. L'HEURE D'ÉLEVER SON CŒUR À DIEU. 18 Juin, 1791. *Now is the time to lift our hearts to God.*

On the church at Poliéna (Isère).

570. L'HEURE D'HOBEL AV ROI (*sic*). 1720. *Now is the time to obey the King.*

At Beaucroissant (Isère), above a dolphin's head surrounded by fleurs-de-lys.

571. L'HEURE DU TRAVAIL. 1796. L'An V. (of the Republic).
Now is the time for work.

At Izeaux (Isère).

572. L'HEURE EST À DIEU,
L'ESPÉRANCE À TOUS.
Adèle Essex. 1896.
*The hour belongs to God,
Hope to all.*

On a sun-dial, thirty feet in diameter, at Cassiobury, Herts, the letters being made in box on a double gravel ring in the turf, designed by Lady Essex.

573. L'HEURE FUT, L'ÉTERNITÉ APPROCHE. *The hour flies, eternity draws near.*

At Réaumont (Isère).

574. L'HEURE NOUS DÉROBE LE JOUR. 1703. *The hour steals away the day.*

Hameau de la Combe, near Rovon (Isère).

575. L'HEURE PACE (*sic*) ET TOI AUSSI. 1776. *Time passes, and thou dost the same.*

At La Folatière (Isère).

576. L'HEURE PASSE COMME LE TEMPS. 1847. *The hour passes as doth Time.*

At St. Marcellin (Isère).

577. L'HEURE QU'ON NE PENSE PAS. 1809. *The hour one least expects.*

At Seyssins (Isère).

578. L'HEURE QUE TU CHERCHES TE CONDUIT À LA MORT. *The hour that thou lookest for leads thee to death.*

At Les Orres, near Embrun (Hautes Alpes).

579. L'HEURE QUI SUIT N'EST PAS À VOUS. *The hour which follows belongs not to you.*

On the belfry of St. Gervais. When the dial was finished the painter stepped back to look at his work, the scaffolding shook, he fell and was killed on the spot. (See "La Cloche," by M. Blavignac.)

580. L'HEURE VA NAÎTRE; ELLE EST; ELLE EST PASSÉE. 1868. *The hour is about to be; it is; it passes away.*

On a house at Les Queyrelles (Hautes Alpes). The dial is ornamented with paintings of a cock and a pot of flowers.

581.

LA LUMIÈRE EST MA RÈGLE,
L'OMBRE EST LA VOTRE.

1785.

*Light rules me,
The shadow thee.*

At Chamaloc (Drôme).

582. LA MORT N'A POINT D'HEURE FIXE. 1812. *Death has no fixed time.*

On the curé's house, Eybens (Isère).

583. LA MORTE ANNUNZIO IN DISTINGUENDO IL GIORNO (Preti). *Dividing hour from hour a messenger of death am I.*

Given in "Notizie Gnomoniche."

584.

L'OMBRA CHE VEDI O PASSAGIER DA VELOCISIME
ORE

E DA UN MOMENTO

T'ATTESTA

UN ORA PAŞA, UN ORA MEN TI RESTA

L'ETERNO GIOIR

PENDE OÏUR TORMENTO

1852.

*The shadow's hours, traveller, swiftly speed,
One moment grants it, bidding thee take heed;
One hour hath gone, one hour the less remains,
Ere joys eternal, or eternal pains.*

On a house in a village near the Lago di Garda. The words *Soli, soli, soli*, are written between the numerals.

585.

L'OMBRA È FIGURA DELLA TUA LABIL VITA,
SEGNANDO L'ORE A MEDITAR T'INVITA.

1868.

*The shadow is a symbol of thy fleeting life,
By telling the time it calls thee to reflection.*

On a house by the Grand Canal, Venice.

"Men desire thousands of days and wish to live long here; let them rather despise thousands of days, and desire that one which hath neither dawn nor darkening, to which no yesterday give place, which yields to no to-morrow."—*S. Augustine, quoted by Archbishop Leighton.*

586.

L'OMBRE FUT ET REVIENT, ET DANS SON COURS ÉGAL
DE L'ÉTUDE ET DES JEUX DONNE ICI LE SIGNAL.

*The shadow goes and comes again,
And in its even way
The signal gives for work, and gives
The signal too for play.*

On a dial for a college (school), exhibited in the Conservatoire des Arts et des Métiers, Paris. It is the same as the rendering given by M. Dubois, in 1806, of the Latin motto now on the Lycée at Rouen.

587. L'OMBRE FUT, LA MORT APPROCHE. 1825. *The shadow flies, death draws nigh.*

At Crest (Drôme).

588. L'OMBRE PASSE ET REPASSE,
ET SANS REPASSER L'HOMME PASSE.
*The shadow passes, passes yet again ;
But with no second passing, passeth man.*

In a garden not far from Falaise, Normandy.

589. L'ORA CHE L'OMBRA MIA FEDEL TI ADDITA,
PENSA CHE FU SOTTRATTA DALLA TUA VITA.
*This hour marked by my constant ray,
Is one more taken from thy little day.*

On a house at Murano, near Venice, with No. 43.

590. LA PAIX RAMÈNE L'ABONDANCE. 1815. *Peace restores plenty.*
At St. Savin (Isère).

591. LA VERTU EXCEPTÉE TOUT PASSE COMME L'OMBRE. *All things, save virtue, pass away like a shadow.*
At Roybon (Isère).

592. LA VIE AINSI QUE L'OMBRE SE PASSE EN PEU D'HEURES. *Life, like the shadow, passes away in a few hours.*
No place assigned.

593. LA VIE EST COMME L'OMBRE,
INSENSIBLE A SON COURS
ON LA CROIT IMMOBILE ;
ELLE AVANCE TOUJOURS.
*Our life is like the shades,
Unseen upon its way ;
At rest we down are laid,
It moveth on for aye.*

On a house at Bourges, with No. 1177.

594. LA VIE N'EST QU'UN SOUPIR,
SI TÔT IL FAUT MOURIR.
*Our life is but a sigh,
So soon we all must die.*

On the chapel of St. Jacques, Hameau de Bellentre (Savoy).

595. LA VIE PASSE COMME L'OMBRE. *Life passes like the shadow.*

At Quaix (Isère); at St. Egrève; and formerly, with No. 538, in the garden of the Capuchin Nuns' Convent, Place Vendôme, Paris. With slight variations it may be also read at La Saxe, near Courmayeur; and La Cachourie, Savoy.

596. LA VITA FUGGE E NON S'ARRESTA UN' ORA (Petrarch). *Life flies apace with not an hour's delay.*

Given in "Notizie Gnomoniche."

597. LABENTE TEMPORE FUTURUM COGITA. *As time glides think on the future.*

On the University of Padua.

598. LABITUR ET LABETUR. *It glides, and will glide away.*

On a dial over the church porch at Leake, Yorks; and at the Convent of Cimiez, Nice (see Nos. 233, 1111, 1463, 1475, 1618). The words are from Horace, Epist. i. 2, 43. The simile is that of the countryman who when he comes to the river waits stolidly for the water to flow away so that he may be able to cross to the other side.

"Qui recte vivendi prorogat horam,
Rusticus expectat dum defluat amnis; at ille
Labitur et labetur in omne volubilis aevum."

Ovid has a similar passage :

"Eunt anni more fluentis aquae.
Nec quae praeteriit cursu revocabitur unda;
Nec quae praeteriit hora redire potest."
De Arte Amandi, iii. 62.

Dr. Young has adopted a like metaphor in his "Night Thoughts."

"Life glides away, Lorenzo, like a brook;
For ever changing, unperceived the change.
In the same brook none ever bathed him twice;
To the same life none ever twice awoke,
We call the brook the same; the same we think
Our life, though still more rapid in its flow;
Nor mark the much, irrevocably lapsed
And mingled with the sea."

(*Night Fifth.*)

599. LABITUR OCCULTE, FALLITQUE VOLUBILE TEMPUS. *On-rolling time glides by silently and unperceived.*

On a house built in 1889, at Civiasco, near Varallo.

At Colonel Helyar's very interesting house, Poundisford, near Taunton, there is an old dial with an inscription so nearly obliterated that only *Labitur occ*— can now be read. Probably it originally bore the whole of the motto above. The line is slightly altered from Ovid, Eleg. i. :

"Labitur occulte, fallitque volubilis ætas,
Et celer admissis labitur annus equis."

600. LABOR ET GLORIA VITA FUT, MORS REQUIES. *Life was work and honour, death is repose.*

Sent by the Hon. Mrs. R. C. Boyle.

601. LABOR IPSE VOLUPTAS. *Toil itself is pleasure.*

With initials and date C. H. 1718, on the Old Hall, Bransby, near Saxilby. The kitchen buildings, on which the dial is placed, are all that now remain of the original hall.

602. LABORA DUM LUCET. *Work while it is light.*

At Les Avenières (Isère).

603. LABORARE EST ORARE. *To work is to pray.*

Seen on an outhouse near Nice in 1860, by Mr. Cowden Clarke.

604. LABUNTUR ANNI. *The years glide away.*

On Burnham Church, Somerset. See No. 780.

605. LAETA ROGO NITEANT DIVINA ILLUMINA PHOEBI
ET SINE NUBE TIBI QUÆLIBET HORA FLUAT.

*Joyfully I pray that the rays of the heavenly sun may shine,
And that every hour may pass happily to thee.*

Contributed by Viscount de Vesci. Locality not known.

606. LAS KEINE STUND FURUBER GHAN
DU HABST DEN ETWAS GUT GETHAN.

*Of the hours let there none
Pass when thou no good hast done.*

On an ivory portable compass dial in the National Museum at Munich, with No. 1016.

607. LATET ULTIMA. *The last (hour) is hidden.*

On a dial in the garden at Bispham Hall, Lancashire; and with date, 1793, on a chalet at Alagna. Compare No. 1475.

608. L'AMOUR ET LA JEUNESSE
C'EST UN SIMPLE PASSAGE
COMME LE SOLEIL ET SON OMBRAGE.

*Love and youth are but day-dreams, which pass away like the sunshine
and the shadow.*

In a village near Courmayeur.

609. I . H . S
M^r . M . ROUSSEAU
1678

Larreste . en . est . donne . qvil . favt . qve
l'homme . mevre . et . qvil . paroisse . ensvite .

An inscription engraved on the four sides of a slate dial, formerly at Brulon (Sarthe), now at Le Mans. The verses should be read thus :

The last line has been broken off.

610. LE CIEL EST MA PATRIE. *Heaven is my country*

On the church at Fortville, near Briançon.

6II. LE CIEL EST MA RÈGLE. *Heaven is my ruler.*

At Florence, on the studio of Signor Gelli, artist. Also at Romans (Drôme), dated 1848; and at Fontenay aux Roses (Seine).

612. LE DO BUONE, LE DO MALE. *I give good (seasons), I give bad (seasons).*

At La Versine, near Chantilly, on the house of the Comte de St. Simon.

613. L'ÉTERNEL A DIT : LES MONTS NE POURRONT T'ARRÊTER DANS TA COURSE. *The Eternal hath spoken : the mountains shall not hinder thee in thy course.*

This was designed about 1850, and was till lately on a house at Les Queyrelles (Hautes Alpes).

614. L'HOMME DÉCLINE COMME L'OMBRE. *Man declines like the shadow.*
At Maussane.

615. L'HOMME EST SEMBLABLE À LA VANITÉ ; SES JOURS SONT COMME UN OMBRE QUI PASSE. *Man is like to vanity : his days are as a shadow that passeth away.* Psalm cxliv. 4 (Bible version).

On a dial above the porch of St. Brelade's Church, Jersey. There is a free rendering of the same text on an eighteenth century dial which is mounted on an antique marble pedestal in a garden, Rue du Collège, St. Girons, and No. 148 is also engraved upon it.

616. L'ŒIL ÉCLATANT DE LA NATURE
EST L'IMAGE DE L'ÂME PURE.

Nature's brilliant eye is the emblem of the pure soul.

At the Hôtel Garçon Frères, Peisey (Savoy).

617. L'ORE DEL DÌ SON SEI VOLTE QUATTRO,
MA UN DÌ NON CONTARAI LE VENTQUATTRO.
*The hours of day to sixfold four amount,
One day those twenty-four thou shalt not count.*

Given in "Notizie Gnomoniche."

618. L'ORE DEL VIVER TUO INCERTE E CORTE,
TI FANNO IN UN PENSIER TEMER LA MORTE ;
VIVI CON DIO E NON L'OFFENDER MAI,
SE VUOI VINCER LA MORTE, E TRIONFAR DE' GUAL.
*The short and dubious hour thou drawest breath,
Must every instant bring the fear of death ;
Live thou with God, a life devoid of sin,
If over death and woe a triumph thou wouldst win.*

Given in "Notizie Gnomoniche."

619. L'ORE NON SEGNO SE MI MANCA L'OMBRA,
E ALLORA IL MURO IN VAN DA ME S'INGOMRA.
*A burden vain to my supporting walls,
No hour I mark unless the shadow falls.*

Given in "Notizie Gnomoniche."

620. LE PLAISIR LES ABRÈGE. 1790. *Pleasure shortens them.*
At Izeaux (Isère).

621. LE PRÉSENT N'EST JAMAIS NOTRE BUT. *This is not your Rest.*
On the church at San Martino, parish of Casaleggio, near Novi, Piedmont.
622. LE SOLEIL ET LA LUNE ÉCLAIRENT TOUT LE MONDE. Aris. Aubergiste. *The sun and moon give light to all.*
On the front of an inn at Betharram.
623. LE SOLEIL FUT ET L'OMBRE RESTE. *The sun flies and the shadow stays.*
In the Rue Neuve, Aime (Savoy).
624. LE SOLEIL LÈVE POUR TOUS. *The sun ariseth for all.*
HORA BIBENDI. *Now is the hour for drinking.*
Pont de Cervières (Hautes Alpes).
625. LE SOLEIL LUIT POUR TOUT LE MONDE. *The sun shines for all.*
On a cabaret at La Vachette (Hautes Alpes). This is not an infrequent motto for cabarets, and once figured on the celebrated cabaret de Ramponneau aux Porcherons, Paris. It is also found at Ste. Euphémie (Drôme).
626. LE SOLEIL SE LÈVE POUR TOUT LE MONDE. *The sun rises for all.*
On the "Auberge du Mouton Chéri," Rue de Cartres, Toulouse.
627. LE TEMPS C'EST DE L'OR. 1703. *Time is golden.*
Formerly at Noippy (Moselle).
628. LE TEMPS FUT EMPORTANT LES HEURES SUR LES AILES,
LA JUSTICE ET LES LOIS ICI SONT ÉTERNELLES.
Time flies bearing the hours on its wings.
Law and justice remain for ever.
Suggested for a Palais de Justice. From a collection made by M. Dubois, 1806 (Rom. 1881).
629. LE TEMPS FUT, L'ÉTERNITÉ S'AVANCE. *Time flies, eternity draws near.*
Near the source of the Isère, at Tignes (Savoy), partly defaced.
630. LE TEMPS FUT. *Time flies.*
LA MORT SUIV. *Death follows.*
On the Ecole des Frères, Moissac (Tarn et Garonne); and at Le Périer (Isère).
631. LE TEMPS MÈNE À L'ÉTERNITÉ, QUI EN SAIT
BIEN PROFITER SE LA RENDRA HEUREUSE. 1841.
Time leads to eternity, he who knows how to use the one well will make the other happy for himself.
At Villard St. Pancrace (Hautes Alpes).

632. LE TEMPS PASSE ET L'ÉTERNITÉ VIENT. *Time passes and eternity comes.*

On the church in the cemetery at Anêt (Eure et Loire).

633. LE TEMPS PASSE ET TOI AUSSI. 1849. *Time passes away, and thou passest away also.*

At Virieu (Isère).

634. LE TEMPS PASSE, L'AMITIÉ RESTE. *Time goes, friendship stays.*

With No. 114. On a dial placed by Lord Ilchester on the south-west front of Melbury Castle, Dorset.

635. LE TEMPS PASSE, L'ÉTERNITÉ S'AVANCE. *Time passes, eternity approaches.*

Copied in 1870 at Entrèves, near Courmayeur. There was a second line, but it was too much defaced to be legible.

636. LE TEMPS PASSE, LES ACTIONS RESTENT. 1840. *Time passes, our deeds remain.*

Formerly at Les Vachères (Hautes Alpes).

637. LE TEMPS PASSÉ N'EST PLUS, L'ÉTERNITÉ COMMENCE,
PENSEZ Y MORTELS ET PENSEZ V D'AVANCE.

*The past is gone, eternity begins,
Mortals think on this, ere it is too late.*

On a church at Lens, Canton Valais.

638. LEAD KINDLY LIGHT.

These words, from Cardinal Newman's beautiful poem, have been inscribed on a modern dial at Castle Hall, Painswick, Gloucestershire, by Mr. Baddeley, the owner.

639. LEARN TO VALUE YOUR TIME.

At Ballakilly, Isle of Man. See No. 1122.

640. LES GÉNÉRATIONS PASSENT COMME LES HEURES. 1828. *Generations pass away like hours.*

At Montjoie (Ariège).

"E fieramente mi stringe il core
A pensar come tutto il mondo passa
E quasi orma non lascia.

LEOPARDI.

641. LES HEURES HEUREUSES NE SE COMPTENT PAS. *Happy hours do not count themselves.*

In an article, "My Plaisance," published in the "Lady's Realm" (v. 1. No. 1), the Countess of Warwick describes a sun-dial of which "the gnomon is a yew-tree, and the figures which record the hours are

all cut and trimmed in box, and there is on the outer ring a legend" (as above) "which read in whatever way you will."

642. LES HEVRES, LES IOVRS, LES MOIS ET LES ANS PASSENT. MAIS L'HOMME DE BIEN VIVRAS TOUJOVRS EN CE LIEV OV NE FINISSENT LES ANS LES MOIS LES IOVRS ET LES HEVRES. A BIEN FAIRE TROP NE DEMEVRE CAR EN PEV DE TEMPS PASSE L'HEVRE. 1657. *Hours, days, months and years pass away, but the righteous man shall live for evermore, in that place where years, months, days and hours have no end. There is not too much time left for well doing, since the hour passes quickly away.*

On a dial taken from an old house at Beaune, and now placed in the museum at the Hôtel de Ville.

643. LES JOURS PASSENT COMME LES PÉLERINS. *Days go by like pilgrims.*

At St. Geoire (Isère).

644. LET NOT THE SUN GO DOWN UPON YOUR WRATH.

St. Paul's monition (Eph. iv. 26) was used by Bishop Copleston for a dial motto in a village near which he resided.

645. LET OTHERS TELL OF STORMS AND SHOWERS,
I'LL ONLY COUNT YOUR SUNNY HOURS.

This motto, belonging to the numerous family of *Horas non numero nisi serenas*, is inscribed on a horizontal dial set up about 1870 in the grounds of Lansdowne Lodge, Kenmare, co. Kerry. In 1895 the same motto was chosen by H.R.H. the Princess of Wales for a vertical dial at Sandringham House, together with No. 767.

646. LEX ANCHORA REGNI. *Law is the anchor of the realm.*

At Lincoln's Inn.

647. LEX DEI LUX DIEI. *The law of God is the light of day.*

On the church of St. Thomas à Becket, Dodbrooke, Devon; and over the south entrance of Mickleton Church, Gloucestershire. It was formerly on the church of Great Smeaton, Yorkshire (see Nos. 693, 914, 1020); and is recorded as having been on the south side of the tower of Rugby Church, but the dial was replaced by a clock when the building was restored.

648. LEX MEA LUX. *The law (is) my light.*

On the Palais Royal, Paris, in 1787. From a contemporary MS. list, printed by the Comte du Marsy (Bull: Mon:).

649. LIFE AS THIS SHADE
DOTH FLY AND FADE.

On a vertical dial of sandstone, on the south wall of St. Mary's at Marlston, near Bucklebury, Berks.

650. LIFE'S BUT A FLEETING SHADOW.

At Langton Matravers, Dorset. A slightly different version, **LIFE PASSETH AS A SHADOW**, was formerly on the nave of Cardington Church, Bedford, with date, circa 1780, and initials "C. W." The dial was taken down during the restoration of the church, but is being repaired and re-adjusted by Mr. E. C. Middleton, and will be replaced on the south wall of the building. "C. W." was probably a member of the Whitehead family who own the adjoining estate of Southill. The present head of the family has represented Bedford for many years in Parliament.

651.

LIFE'S BUT A SHADOW,
MAN'S BUT DUST.
THIS DYALL SAYS,
DY ALL WE MUST.

On the church of All Saints, Winkleigh, Devon.

652. LIFE'S BUT A WALKING SHADOW. 1769.

From "Macbeth," Act V., Scene 5, is on an erect south dial on an old house in the Close, Salisbury, formerly inhabited by James Harris, the author of "Hermes," a Salisbury man, who died in 1780,



ST. JOHN THE BAPTIST,
MORWENSTOW.

and who may have erected and inscribed the dial. The same motto is on Woodborough Manor House, Wilts, and on a vertical dial on the stables at Arbury, Warwickshire—the "Cheveril Manor" described by George Eliot.

653. LIFE IS LIKE A SHADOW.

Over the porch of the fine old church of St. John the Baptist, Morwenstow, Cornwall, which dates its foundation from the ninth or tenth century. The entrance door to the nave is very good Norman

work, and the font is one of the oldest Saxon ones in England. The dial appears to be modern. Morwenstow, according to its former vicar, the late Rev. R. S. Hawker, means the "stow" or "place" of St. Morwenna.

" My Saxon shrine ! the only ground
Wherein this wearied heart hath rest !
What years the birds of God have found
Among thy walls their sacred nest :
The storm—the blast—the tempest shock,
Have beat upon those walls in vain,
She stands—a daughter of the rock—
The changeless God's eternal fane.

Firm was their faith, the ancient bands
The wise of heart in wood and stone ;
Who reared with stern and trembling hands
These dark grey towers of days unknown ;

* * * * *
They pitched no tent for change or death,
No home to last man's shadowy day !
There ! there ! the everlasting breath
Would breathe whole centuries away."

R. S. HAWKER.

654. LIFE IS SHORT, TIME IS SWIFT, MUCH IS TO BE DONE. J. S. 1833.

The dial is circular, and of slate, and was erected on a barn near Bassenthwaite, Cumberland, by the late James Spedding.

655. LIGHT COME LIGHT GO.

This motto was devised by the late James Payn, for a sun-dial at Brighton set up by Mr. Pym.

656. LIGHT IS THE SHADOW OF GOD.

One of the mottoes on "Prince Albert Victor's dial," at the Edinburgh Exhibition, 1886. See No. 1306.

657. LIKE TO THE HOUR OF THE DAY
OUR TIME AND LIFE SOON PASS AWAY. 1821.

On the south porch of Westbury Church, Wiltshire.

658. LIKE TO THIS SIRKELL ROUND
NO END TO LOVE IS FOUND.

On a bronze ring-dial found in a garden at Yattendon, and belonging to Alfred Waterhouse, Esq., R.A.

659. LITTLE SUN UPON THE CEILING
EVER MOVING EVER STEALING
MOMENTS, MINUTES, HOURS AWAY,
MAY NO SHADE FORBID THY SHINING
WHILE THE HEAVENLY SUN DECLINING
CALLS US TO IMPROVE THE DAY.

On a ceiling dial, usually called a spot dial, made by a western window at Theobalds; described in C. Leadbetter's "Mechanick Dialling," 1756.

660. L'OROLOGIO PUO' ERRAR SEGNANDO LE ORE,
MA LA SFERA DEL SOLE GIAMMAI TRASCORRE.
*The clock may mistake in the hours of the day,
But the orb of the sun never goeth astray.*

On a mill near Riva, Lago di Garda.

661. LO SOL SEN' VA, SOGGIUNSE, E VIEN LA SERA:
NON V'ARRESTATE, MA STUDIATE IL PASSO
MENTRE CHE L'OCCIDENTE NON S'ANNERA.
*"The sun," it added, "sinks, and eve is nigh:
Linger not here, but swift pursue your way,
Ere night arriving shrouds the western sky."*
WRIGHT'S *Trans.*

On a dial erected by the late Lord Iddesleigh on the terrace at Pynes, Devon, and inscribed, "Sir Thomas Dyke Acland, Bart. In memory of a friendship of three generations, 1787-1876."

The lines are from the "Divina Commedia" of Dante, Purgatorio, c. xxvii.

662. LONG LIVE THE KING.

On the tower of Old Thundridge Church, Herts.

663. 17 LOOSE NO TIME 13
A (the royal crown) R
WILLIAM MUNDEN
MAY 1755.

On the south side of High Street, Kensington, nearly midway between Young Street and the entrance to Jennings' Buildings (pulled down by Baron Grant) the old Red Lion Inn was entered by a yard which still remained in 1874. About forty feet from the ground on the south wall of the old house, a large stone slab let into the wall formed the plate of a sun-dial, the gnomon of which was propped by an S-like bar of iron. The above inscription was found to be engraved on the dial. Mr. W. Munden was a barber-chirurgeon (surgery was not constituted a distinct service till 1745). He held property in various parts of Kensington, and was churchwarden of the parish church, 1698 ("Notes and Queries," 5th Series, 1874).

664. LOQUOR, SED NON CAECIS. *I speak, but not to the blind.*

In Mrs. Schimmelpennick's account of her visit to the ruins of Port Royal, she states that in the burying ground attached to the chapel dedicated to the Blessed Virgin, there was a sun-dial which bore this

motto ; and she adds that, "above the portal entrance to the burying-ground were the following inscriptions :—without,

‘ Time is yet before thee ; ’

within,

‘ Time is for ever behind thee.’

A quaint verse in old French was also often repeated :

‘ Tous ces morts ont vécu, toi qui vis, tu mourras ;
Ce jour terrible approche, et tu n’y pense pas.’

which might be thus rendered :

‘ These dead once lived, and thou who liv’st shalt die :
Thou heedst it not, yet that dread day draws nigh.’ ”

I speak, but not to the blind, was formerly on a sun-dial at Bath.

665. LORD REMEMBER ME
WHEN TIME NO MORE SHIL BE.
WE SHALL DIE ALL.
M. M. R. 1658.

Formerly on an old public house in Peterborough, and now in the museum of the Natural History and Archæological Society there.

666. LORD THROUGH THIS HOUR
BE THOU MY GUIDE,
SO BY THY POWER
NO FOOT SHALL SLIDE.

Copied from an almanack, and there called “ A Sun-dial Motto ” ; no further particulars were given.

667. LORSQUE TU SONNERAS, JE CHANTE. *When thou shalt strike, I sing.*

On a house in the Rue d’Antibes, Cannes, there was in 1860 a circular dial, surmounted by a gaily painted cock. Right and left of the bird there spread a scroll, inscribed as above. It is, of course, the cock’s challenge to the dial. When sketched the dial had long passed its prime, and has probably now disappeared altogether. See No. 536.

668. LOSE NO TIME.

On a very large dial which is fastened outside the chancel wall of Middleton Church, Lancashire.

669. LOU SOULEI FA LUSI SEI REI SU LA CABANO E LOU PALAI.
(LE SOLIEL FAIT LUIRE SES RAYONS SUR LE CABANE ET SUR
LE PALAIS.)

The sun shines alike on cottage and on palace.

At Marseilles—in the Provençal dialect.

670. LOVE'S NOT TIME'S FOOL, THOUGH ROSY LIPS & CHEEKS
WITHIN HIS BENDING SICKLE'S COMPASS COME;
LOVE ALTERS NOT WITH HIS BRIEF HOURS & WEEKS,
BUT BEARS IT OUT EVEN TO THE EDGE OF DOOM.

Shakespeare—Sonnet CXVI.

Formerly on a summer-house in the garden at Perridge, Pilton, Somerset. See No. 450.

671. LUCE LUCENTE RENASCAR. *When the light shines, I shall be born again.*

Sta. Maria Formosa, Venice.



YORK MINSTER.

672. LUCEM DEMONSTRAT UMBRA.
The shadow shows the light.

This motto was inscribed by the Very Rev. Arthur Purey-Cust, Dean of York, on a dial which he placed in 1889 over the south transept entrance of York Minster. There had once been a dial in the same place, but for some years a clock had superseded it. The clock was removed when the transept was restored, and the dial erected in its stead. The words of the inscription were chosen to express both a spiritual and scientific truth, the shadows of death making manifest the ineffable brightness of the Light of Life.

673. LUCERNA EJUS EST AGNUS.
The Lamb is the light thereof.—
Rev. xxi. 23.

On a building which was till lately a boys' school connected with the parish church of Frome, Somerset.

674. LUCET OMNIBUS. *It shines for all.*

At La Côte d'Aime, Savoy. The inscription was added not long before 1877 by the Abbé du Cognon, curé of the parish.

675. LUDUS LABORQUE COMPOSITA REPETANTUR HORA. *Let work and play be sought at the time appointed.*

Formerly in the Collège du Marché, Paris, with No. 681.

676. LUMEN DUCIT OVES. *Light leads the sheep.*

On a horizontal dial at Évantard (Maine et Loire), formerly the

residence of the Bishops of Angers. On the dial are the arms of Jean de Vaugirard who was Bishop in 1753. The sun's face in the centre sends its rays towards the hours. The arms of France are on the style, which is of copper. The motto is a flattering allusion to the Bishop's office.

677. LUMEN ET TENEBRÆ SUMUS. *We are light and darkness.*

On a seventeenth century house at Kayzersberg.

678. LUMEN ET UMBRA DEI. 1672. *Light and shadow of God.*

"At Tredegar, Monmouthshire, in a room panelled with cedar, one pane of the window is marked with the lines and hours for a sun-dial, radiating from a projecting gnomon, and beneath it is the above motto burnt in the glass. (N. and Q., 4th S., iv. 143.)

679. LUMEN IN UMBRA:
LUMEN AB INTUS.

Light in shadow: light from within.

On the cathedral at Autun, below two dials painted on the south angle of the Chapel of St. Joseph. The building seems to belong to the eighteenth century.

680. LUMEN ME REGIT VOS UMBRA. *The light guides me, the shadow you.*

At Barlow Hall, Lancashire, on a dial supposed to have been erected about the year 1574 by Alexander Barlow.

681. LUMEN NON FLAMMA. *Light not flame.*

Formerly on the Collège du Marché, Paris, with No. 675.

682. LUMEN UMBRA DEI. *Light (is) the shadow of God.*

On a window dial, and also in the garden, at Groombridge Place, Kent. See No. 1506.

683. LUMINIS ASPECTU REDAMETUR LUMINIS AUCTOR. *As we gaze on the light, let us love light's Creator for His love to us.*

On the cathedral, Nevers.

684. LUX DEI VITÆ VIAM MONSTRAT,
SED UMBRA HORAM ATQUE FIDEM DOCET.
*The light of God showeth the way of Life,
But the shadow telleth both the hour and teacheth the faith.*

On a fine vertical dial set up in 1891 on an old stone wall which marked the northern boundary of the grounds of the Sta. Barbara Mission in California. It is in full view of the highway, so can be seen by all the passers by. "It is a pretty sight," says the writer in the "Andover Review," "to see the picturesque native Californians stopping to read the Latin, in their softened Spanish accent, with evident compre-

hension." There is also the inscription: "This dial was made, inscribed and set by Rowland Hazard of Peace Dale, Rhode Island, in a part of the Sta. Barbara Mission wall, built 1786, standing on his land."

685. LUX DEI VESTIGIUM. *Light is God's footprint.*

At the Church of the Frari, Venice.

686. LUX DIEI, LEX DEI. *The light of day is the law of God.*

On Whitburn Church, co. Durham.

687. LUX ET UMBRA VICISSIM SED SEMPER AMOR.
Light and shadow by turns, but love always.

This motto was composed by Mr. Bodley, F.S.A., and given by him



STA. BARBARA MISSION, CALIFORNIA.

to the Hon. Mrs. R. C. Boyle for a horizontal dial in the garden at Huntercombe Manor, Maidenhead. It is also on a dial at Parkstone, erected by the owner in memory of a brother, and placed in his favourite garden.

688. LVX. IN TENEBRIS LVCET
METITVR QVE DIES. *Light shineth
in the darkness and measureth out
the days.*

On a brass universal ring dial bought in London by Mr. Hilton (see Chronograms, vol. iii.). The date given is 1734.

689. LUX LAETITIA EST. *Light is
joy.*

On the presbytère, Le Chazelet (Hautes Alpes).

690. LUX MEA LEX. *Light my law.*

In the court of the Hôtel de Ville at Epinal.

691. LUX POST UMBRAM. *Light after shadow.*

Was read as a dial motto in the north of Italy.

692. LUX TUA VITA MEA. *Thy light (is) my life.*

At Mapledurham House, near Reading. The motto is that of the Blount family, to whom the place belongs.

693. LUX UMBRA DEI. *Light (is) the shadow of God.*

At Ripley, Surrey, with other mottoes (see No. 1002); on Dymock Church, Gloucestershire; at Finchley; at West Boldon, co. Durham;

it has been seen in the north of Italy ; and was formerly on the church at Great Smeaton, Yorkshire (see No. 1020).

694. LUX UMBRAM PRÆBET, MYSTERIA AUTEM VERITAS. 1841. *The light makes shadow, but the truth makes mysteries.*

On the church at Château Queyras (with Nos. 270 and 775).

695.

1740 YEARS OF

מִשְׁכֵּי

A STONE OF STUMBLING.

SEE ISAIAH VIII. 14, 15.

PS. CXIX. 165. EZEK. III. 20.

A STUMBLING BLOCK.

BEWARE OF HIM.

MAL. I. II.

BEZALEEL BENEVENT.

SCULPTOR ISRAELITE. ISAIAH, XLIV. 5.

MAKER. I AM 58 YEARS OLD.

This extraordinary inscription is carved in stone on the two sides of a dial plate which is inserted in the slab, and fixed against a house in the village of Wentworth, on Earl Fitzwilliam's Yorkshire estate. It has puzzled many passers by ; but the Rev. Dr. Moses Margoliouth has offered a solution of the mysterious motto in "Notes and Queries," 1st Ser., vol. iv., p. 378. He assumes it to have been the work of a Jewish mason, probably employed in the erection of Wentworth Woodhouse, who had become a convert to Christianity, and who sought to allure his Hebrew brethren to a like change of faith. The Hebrew characters form no word that can be found in the language, but they are the initial letters of the following words :

מֶלֶךְ מְשִׁיחַ שִׁילֹה יְהוֹה רֵעִי

which express, "The King Messiah, the Shiloh, the Lord my Shepherd." Dr. Margoliouth regards the motto as a veiled admission on the part of the Israelite of his conversion to Christianity, given after a national mode of Eastern communication. It will be observed that the Scriptural references are confined to the books of the Old Testament, so as not to alarm the inquiring reader. Dr. Margoliouth concludes his criticism thus : "One may well imagine an Israelite or two observing from the road the Hebrew characters, מִשְׁכֵּי, for they are very large, and are seen afar off—and after puzzling over their intent and purport for some time, proceed to ask for an explanation from the major-domo. The master, delighted that the bait caught, vouchsafes, in his peculiarly eccentric style, to lecture on his own device, and thus reads to his brethren a sermon in stone." By referring to the passages cited in the inscription, the reader will better understand the learned Hebraist's interpretation.

696. MACHINA, BIS SEXTAS QUAE JUSTE DIVIDIT HORAS
JUSTITIAM SERVARE MONET, LEGESQUE TUERI.
*This device, which rightly divides the twelve hours (of day),
Warns you to guard justice and observe the laws.*

This appears in Paris, on a turret of the Palais de Justice; a sun-dial was formerly there, but has been replaced by a clock.

697. MAESTIS LENTAE, CELERES GAUDENTIBUS HORAE. *Slow to the
sorrowing, swift to the joying, pass the hours.*

At Stra, near Padua; and also, with the first word missing, on a house by the roadside between Ventimiglia and Bordighera.

"How lazily time creeps about
To one that mourns!"

BISHOP H. KING.

698. MAGNI MOMENTI MINUTIAE. *Trifles are of great import.*
On the Grand Séminaire, Avignon (with Nos. 75 and 1587).

699. MAKE HASTE, TIME FLIES.
On Lady Ossington's coffee house, Newark.

700. MAN BEST ERWÄHLT
DER NUR HEITERE STUNDEN ZÄHLT.
*He hath made his choice aright,
Who counteth but the hours of light.*

At Nuremberg, recorded in "The Monthly Packet," October, 1886, p. 396.

701. MAN FLEETH AS A SHADOW.

A square dial, once painted red with a green border, is on a gable over the porch of the picturesque old church at Wycliffe-on-the-Tees, and bore the above motto from Job, xiv. 2. The dial is now quite defaced and useless. Wycliffe is the reputed birthplace of the great Reformer, and is very beautifully situated. The same motto was formerly on the church at Staindrop, co. Durham; and it is still on a square dial upon the south wall of the aisle of Maxey Church, Northamptonshire.



WYCLIFFE-ON-THE-TEES.

702. MAN FLEETH AS IT WERE A SHADOW.
1803.

On the south porch of Hamsterley Church, co. Durham.

703. MAN GOETH TO HIS WORK. CHILDREN OF LIGHT. THE NIGHT
COMETH. A REST FOR THE PEOPLE OF GOD.

These mottoes are inscribed on the four faces of a stone shaft in the churchyard at Upton St. Leonards, Gloucestershire; there are dial-plates on the east, south, and west faces.

704. MAN IS A SHADOW. 1808.

Over the porch of Stowmarket Church, Suffolk.

705. MAN IS LIKE A THING OF NOUGHT, HIS TIME PASSETH AWAY LIKE A SHADOW (Psalm cxliv. 4).

On a horizontal dial in Frittenden Churchyard.

706. MAN'S DAYS ARE AS A SHADOW THAT PASSETH AWAY.

With other mottoes on Prince Albert Victor's dial, Edinburgh Exhibition, 1886. See No. 1306.

707. MANCHER ACTS, MANCHER VERLACHTS, MANCHER BETRACTS. WAS MACHTS? MUSSIGANG MUTTER ALLE LASD(T)ER. OMNIA HUMANA VANA. MEIN WERK JA NICHT VERACHT, BEVOR DU NICHT HAST EIN BESSERES GEMACHT. NI(C)HIL DIFFICILE EST VOLENTI. HORA FUGIT. SIC TRANSIT GLORIA MUNDI. *Many a man heeds it, many a man despises it, many a man looks at it. What matters it? Idleness is the mother of all vice. All things human are vain. Be sure you do not despise my handiwork before you have made a better yourself. Nothing is difficult to the willing. The hour flies. So passes the glory of the world.*

These quaint mottoes are all inscribed on a curious wooden block, bearing several dials, in Mr. Evans' collection.

708. MANE NOBISCUM, DOMINE, QUONIAM ADVESPERASCIT. *Abide with us, O Lord, for it is toward evening* (St. Luke, xxiv. 29).

This text is written on an illustration of a west dial in a French MS. on dials in the possession of Lewis Evans, Esq. The MS. appears to have been written at Nancy in the first part of the eighteenth century.

709. MANE PIGER STERTIS, FUGIT HORA. *In the morning thou snoorest sluggishly—the hour flies.*

Recorded as a dial motto, but no locality assigned. The first three words are from Persius, 5, 132.

710. MANE QUAERIS HORAM:
SERO FORTE (TUA). 1814.

In the morning thou askest the hour: later perchance comes thy hour.

On two complementary dials at Abriès (Hautes Alpes).

711. MANEO NEMINI. *I wait for no one.*

There is a dial which bears this inscription, and surrounded by creeper foliage, on Middleton Tyas Hall, near Richmond, Yorks. The

same motto occurs in a small hamlet, near Baslow, Derbyshire. See No. 330.

712. MANET ULTIMA CŒLO. *The end is in heaven.*

At Regune, Canton de Taverne (Tarn).

713. MARK WELL MY SHADE, AND SERIOUSLY ATTEND
THE COMMON LESSON OF A SILENT FRIEND,
FOR TIME AND LIFE SPEED RAPIDLY AWAY,
NEITHER CAN YOU RECALL THE FORMER DAY.
YOU ARE NOT ABLE TO RECALL THE PAST,
BUT LIVE THOU THIS DAY AS IF THE LAST.

On the sun-dial of Thornby Church, Northamptonshire.

714. MARQUI QUAND JALO (JE MARQUE QUAND IL GÈLE). *I mark (the time) when it freezes.*

On the façade of the old Mairie at Montolieu (Aude), which stood above one of the now destroyed city gates. In front of this building was a tree which intercepted the rays of the sun, except in winter when it was leafless. The dial then showed the hours.

715. MAY THE DREAD BOOK AT OUR LAST TRIAL,
WHEN OPEN SPREAD, BE LIKE THIS DIAL;
MAY HEAVEN FORBEAR TO MARK THEREIN
THE HOURS MADE DARK BY DEEDS OF SIN;
THOSE ONLY IN THAT RECORD WRITE
WHICH VIRTUE, LIKE THE SUN, MAKES BRIGHT.

On a dial which projects from the sill of the library window at Arley Hall, Cheshire, the seat of R. Egerton-Warburton, Esq. It has also *Horas non numero nisi serenas*. Comp. No. 1384.

716. MAY THOSE BE BLEST WITH LENGTH OF DAYS
WHO STILL PROCLAIM KING WILLIAM'S PRAISE.

This pious tribute to the "glorious and immortal memory" is recorded in "Notes and Queries," 4th Ser., x., November, 1872, as an Orange inscription in the Green County of Roscommon.

717. ME LUMEN VOS UMBRA REGIT. *The light rules me, the shadow you.*

At Lesneven, in Brittany; in the garden of the hospital of St. Jacques, Besançon (see No. 75); and on the Town Hall, Saltash, with "Edward Stephens, fecit 1727." The first four words and date 1783 are at La Salle (Hautes Alpes).

718. ME ORTUM VIDES FORSAN NON OCCASUM. *Risen thou seest me (the sun) perhaps not set.*

On one of the faces of a pillar-dial at Borranishill House, near Carlisle, with No. 1337. The pillar was erected by a member of the

Heysham family; it bears on the summit a vase ornamented with doves, and crowned by a lion passant regardant—the Heysham crest. The pillar is about 7 feet high. Borranshill now belongs to Colonel Wybergh.

719. ME SOL VOS UMBRA REGIT. *The sun rules me, the shadow you.*

At Auterive, near Auch (Gers); at St. Andras (Ariège); at Tonneins (Lot et Garonne); and formerly in the Rue d'Enfer, Paris.

720. MEAM NON TUAM NOSCIS. *Thou knowest my hour, not thine own.*

Copied at Poirino, Piedmont.

721. MEAM VIDE UMBRAM,
TUAM VIDE BIS VITAM.

Behold my shadow, and thou shalt behold thy life.

On a small leaden dial in the Musée Lorrain, at Bar-le-duc, adorned with the sun's face in the centre. The figures 1432 also appear, but these cannot represent the date of the instrument, which is comparatively modern.

722. MEDIUM NON DESERIT UNQUAM. *It never leaves the middle.*

On the parish church, Capolago. The motto probably refers to the gnomon.

723. MEIN LEBEN WEICHIET SCHNELL DAIHN
IN DEM ICH NUR EIN SCHATTEN BIN.

*My life passes quickly away,
For I am but a shadow.*

On a honestone dial in Mr. Evans' collection.

724. MEMENTO FINIS. 1816. *Remember the end.* Ecclus. xxxvi. 10.

At Ville Vallouise, and at Le Villard (Hautes Alpes).

725. MEMENTO HOMO QUIA PULVERE ES,
ET IN PULVERE REVERTERIS.

Remember, man, that thou art dust, and unto dust shalt thou return.

At Évian (Savoy).

726. MEMENTO HORAE NOVISSIMAE. 1798. *Remember thy last hour.*

Inscribed on a semi-circular dial on a cottage beside the road, on the eastern side of Bordighera, near Ospedaletti. It is placed almost immediately under the roof, the motto and date being below. On the right hand side a lamp projects from the wall, and hangs in front of a niche, where there is an image of the Madonna.

727. MEMENTO MORI. *Remember death.*

This admonition has frequently been chosen as a motto for dials, especially in the North of England. It was formerly on Croft Church,

Yorkshire, dated 1816; and on Rotherham Church (see No. 425). It has been seen on Bishop Middleham Church, dated 1741; on Aycliffe Church, co. Durham; at Wetherall, Cumberland, with No. 66; and also on the Sun-dial Inn at Stroud (see No. 1337).

It has been read abroad on a dial at Monthey, Canton Valais, dated 1804; on the church at Amsoldingen, Canton Berne; on the church at Anêt; and at Cherville (Maine et Loire).

The same motto is on the church porch at Skipton, Yorkshire. The porch was built in 1866, and replaced an old structure on which there was a stone sun-dial; the present one is of brass. The words also occur in the parish register with a note of the burial, in 1665, of Robert Sutton, M.A., who for "fforty & three years was Vicar of the sayde place. His funeral sermon was preached by his son & onely son Thomas Sutton, on this text (2 Kings, xi. 12), 'Memento mori. One generation goeth & another cometh!'" An older dial, without a motto, is traced on the church tower, which was destroyed during the siege of Skipton Castle in the Civil Wars, 1642-45, and was rebuilt by Anne, Countess of Pembroke, in 1655.

The same words were chosen by Thackeray for the dial at Castlewood, which figures in one of his beautiful descriptions: "There was in the court a peculiar silence somehow; and the scene remained long in Esmond's memory. The sky bright overhead; the buttresses of the building, and the sun-dial casting shadow over the gilt 'Memento Mori' inscribed underneath; the two dogs—a black greyhound, a spaniel nearly white, the one with his face up to the sun, and the other snuffing amongst the grass and stones; and my lord leaning over the fountain which was plashing audibly. 'Tis strange how that scene, and the sound of that fountain, remain fixed on the memory of a man who has beheld a hundred sights of splendour and danger, too, of which he has kept no account" ("Esmond," chap. xiv.).

A correspondent reminds us that a certain well-known Fellow of Worcester College, Oxford, suggested as the motto for a snuff-box made out of an old mulberry tree, "*Memento mori—Remember the mulberry tree.*"

728. MEMOR ESTO BREVIS AEVI. 1764. *Bear in mind how short life is.*

Over the porch entrance at Bittadon Church, North Devon. The porch is enveloped in ivy, from which the dial face peers out. The same motto, without date, also occurs at Checkley, Staffordshire.

So Hotspur:

"O gentlemen, the time of life is short,
To spend that shortness basely were too long
If life did ride upon a dial's point
Still ending at the arrival of an hour."

SHAKESPEARE, *Hen. IV.*

729. MEMOR ULTIMAE UTERE PRAESENTI. Declinat G. R. xxxvi. An. Dom. mdcccxxxiv. Joh. Antonivs Teppati, Tavrini, delineavit. *Mindful of the last [hour], employ the present.*

On the wall of a court in the Hospital della Consolazione, or Santa Maria in Portico, Rome.

730. MEMORARE NOVISSIMA TUA. 1832. *Remember thy end.*—Ecclus. vii. 36.

At St. Geoire (Isère); and on the Maison du Bac, La Rivière. The first two words are on the curé's house, St. Paul d'Izeaux, dated 1812; and at St. Etienne de St. Geoirs. The same words were inscribed by Bishop Lancelot Andrewes inside the ring which he wore as prelate of the Order of the Garter.

731. MÉNAGERS, SOYEZ VIGILANTS, LES HEURES PASSENT. *Labourers, take heed, the hours fly.*

On a country house at La Verdière.

732. MENTIRI NON EST MEUM. *It is not possible to me to lie.*

Given by Charles Leadbetter in his "Mechanick Dialling," 1756, as on a dial "facing Billingsgate where the Dealers in Coals assemble daily." The motto was formerly on Ebberston Church, near Scarborough, with No. 942.

733. MENTRE CH'IO PARLO IL TEMPO FUGGI. 1776. *While I speak, time flies.*

With three other words now illegible. At Rives (Isère).

734. MENTRE L'ASTRO SUPREMO IL DISCO RUOTA
E L'ORE, E IL TEMPO ALL'UOM VIATOR MISURA,
AH! L'UOM VIATOR TRAPASSA E QUELLO DURA.

While the supreme star turns its disc

It measures the hours and time to man the traveller.

Ah! man, the traveller, dies, and that (the sun) endures.

By the roadside wall between Santa Caterina and Bormio.

735. METS CHAQUE HEURE A PROFIT ET SURTOUT LA DERNIÈRE. *Use each hour well, especially the last.*

At Pézenas (Hérault).

736. MI DI OOR TEGNI CUNT O MENASIN, PODET DINN ALTRETANT?
(IO DELLE ORE TENGO CONTO. VOI DI MENAGGIO, POTETE DIRE ATTRI-
TANTO?) *I keep an account of the hours; O citizen of Menaggio, can you say the same?*

This motto, in the Lombard dialect, is at Menaggio, on the Lake of Como.

737. MI FECE D'ARCHIMEDE L'ALTA SCUOLA
IL SOL MI DÀ LA VITA E LA PAROLA.

*Designed by Archimedes' lofty mind,
In sunlight life and speech I find.*

This motto, with the date 1859, and name, "Carolus Sachi, Trigon, desine, pinxit," is on a dial erected on the wall of one of the courts of the immense château of the Counts Arconati, at Rho, near Milan. The last descendant of this ancient Milanese family, which dated from the fourteenth century, was buried at Milan in 1870.

738. MIA VITA È IL SOL : DELL' UOM LA VITA È DIO ;
 SENZA ESSO È L'UOM, QUAL SENZA SOL SON' IO.
*My life is the sun : God is the life of man,
 Man without Him, is as I am without the sun.*

On the wall of a monastery, now suppressed, in the neighbourhood of Florence.

739. MIG LEDER SOLEN EI SKUGGEN. *The sun leads me, not the shadow.*

This was read in 1897 on the inside band of a globe dial which was lying on a rubbish heap in an outhouse at the royal residence, Rosendal Djurgarden, near Stockholm.

740. MIHI DEVS LVX ET SALVS. *God is my light and salvation.*
 At Hadleigh, Suffolk (see No. 1393). A chronogram, A.D. 1627.

741. MIND YOUR BUSINESS.

On the church tower at Furneaux Pelham, Herts, with No. 1408 ; formerly at Falsgrave, Scarborough.

742. MINUTÆ SUNT QUÆ SPECTAS, NON QUÆ PERDIS. *What you look at are minutes, not what you lose.*

A moment—mark how small a space
 The Dial shows upon its face ;
 Yet waste but one—and you will see
 Of how great moment it can be.

On a sun-dial in Oxford, near the Clerk of the Peace's office. The dial bears the arms of Thomas, Earl (afterwards Marquis) of Wharton, Lord Lieutenant of Oxfordshire from 1691 to 1702.

743. MISSPEND NO TIME.

At Micheldean (see No. 354).

"Employ thy time well if thou meanest to gain leisure, and since thou art not sure of a minute, throw not away an hour."—BENJAMIN FRANKLIN.

744. MOBILE TEMPUS HORA NON REMORANTE FUGIT. *The hour stays not, the time quick moving flies.*

At Moulins.

745. MONEO, DUM MOVEO. *I warn whilst I move.*

Formerly on a summer-house at Danby Hall, near Leyburn, Yorkshire ; but the dial has now been moved, and placed above the

principal door of the stables. The same motto was formerly on the Market Cross at King's Lynn (see No. 248).

746. MONEO NON MANEO. *I warn, I do not stay.*

In the flower garden at Cokethorpe Park, Oxfordshire.

747. MONSTRAT IN SILENTIO. W. Keall fecit. 1801. *It shows (the hour) in silence.*

On a dial in a garden belonging to a correspondent of "Country Life," December 24th, 1898 (Mr. J. C. Davies).

748. MONSTRO VIAM, PERGE SECURUS. *I show the way, proceed trustfully.*

On an ivory compass dial made by Hans Troschel, 1600-1668, in Mr. Evans' collection (comp. No. 967). This motto is often used on compass dials. Mr. Evans has three in his collection similarly inscribed; one of these is dated 1612.

749. MORS DE DIE ACCELERAT. 1796. *Death hastens on day by day.*

This inscription was on a dial over an archway in the stable-yard at Kiplin Hall, near Catterick.

When the collector (Mrs. Gatty) last saw it, in 1864, the motto had been painted over. The dial was made by a villager named Bonner, who died about 1818; and in 1838 the collector sketched his widow at her cottage in Kiplin, and received the information from her.

The same motto is in the churchyard at Derwent, in Derbyshire. This dial is made of a soft gray stone or slate, in shape like an heraldic shield, and is mounted on an oak beam, which was probably taken out of the old chapel of the fourteenth century.

750. MORS VENIT, HORA FUGIT, METUAS MORTEM VENIENTEM.

Death approaches, the hour flies, fear thou the approach of death.

On an ivory compass dial in Mr. Evans' collection (see No. 37).

751. MORTAL, WHILE THE SUNNY BEAM
TELLS THEE HERE HOW TIME IS FLYING;
HASTE THE MOMENTS TO REDEEM,
FOR ETERNITY PROVIDING.

WINTERS PASS AND SPRINGS RENEW
TO MATURITY ADVANCING,
YOUTH TO PLEASURE SIGHS ADIEU
IN THE FIELDS OF CHILDHOOD DANCING.

MANHOOD SINKS TO HOARY AGE
AND A NIGHT THAT HAS NO MORNING;
O LET WISDOM NOW ENGAGE,
HEAR HER DICTATES AND TAKE WARNING.

WISELY STILL THE MOMENTS USE,
 MAN IS EVERY MOMENT DYING;
 WHILST THIS TABLET YOU PERUSE,
 O REMEMBER TIME IS FLYING.

W. LAMB.

In the "Gentleman's Magazine" for 1829, ii. p. 39, it is stated that the above stanzas are written on a sun-dial on Gainford Church porch. They are no longer there.

752. MORTEL, L'ÉTERNITÉ APPROCHE. 1823. *Mortal, eternity draws near.*

On the church at Méaudre (Isère).

753. MORTEL QUI CHÉRISSEZ CE TEMPLE DE FOLIE,
 PENSE QUE VOTRE JOUR S'Y PASSE AVEC LA VIE. 1835.

*Mortal, why cling to this temple of frailty
 Since your time therein ends with your life?*

At St. Chaffrey (Hautes Alpes).

754. MORTEL, SANS LE TRAVAIL RIEN N'EXISTE POUR TOI. *Mortal, life is worth nothing without work.*

At Ardennes, near Forcalquier (Basses Alpes).

755. MORTEL VEUX TU FIXER LE PARTAGE DU TEMS
 MARQUE PAR UN BIENFAIT CHACUN DE TES INSTANS.

*Mortal, wouldst thou note the division of time
 Let a good deed mark each moment of thy life.*

At Bellerive, near Albi (Tarn).

756. MORTELS QUI VIVONS À L'OMBRE RESSEMBLONS,
 LE PETIT RIEN S'EN VA NOUS NI PENSONS PAS. 1770.

*Mortals who living resemble the shadow
 The little nothing goes by and we think not of it.*

Le Pinet, Briançon.

757. MOSTRO L'ORE A CIASCUN, CHE NON SIA GONZO
 PERO DIPINTO SON, E NON DI BRONZO.

*I show the hour to all except the ass,
 'Tis true I am hand-painted, not of brass.*

Given in "Notizie Gnomoniche."

758. MOTUM SOLIS ADAEQUAT. *It copies the movement of the sun.*

On the Préfecture Maritime, Toulon.

759. MOTUS PERPETUUS, SOLIS DISTINGUIT TEMPORA . VIGILATE . QUÆRE
 UT INVENIAS. 1687.

*Ever it moves, and marks out the periods of the sun ;
 Watch ye. Seek that thou mayest find.*

On an engraving of a dial in "The making of a small portable instrument," by C. Delamain.

760. MOX NOX. *Soon (cometh) night.*

On the south porch of Elsworth Church, near Cambridge; and on a house in Double Street, Spalding, with the date 1773. Also on a flint church at Dennington, Suffolk, where the dial is fixed on the battlement, and beneath, on a scroll, is written :

MOX NOX.
THE MOMENT PAST
LAID MANY FAST.

Many of these flint-built churches are very handsome; round the base of this one the flints are arranged in patterns to represent the emblems of the Passion and other designs. Mrs. Ewing saw and sketched the dial at Dennington.

"Our mechanical arbitrary division of time is a very false one. See how one day drags along, and how quickly another passes. The true measure of time is that which makes every man's life a day. The real night is that in which no man can work."—J. H. EWING.

761. MOYLL Y LAA MIE FASTYR
BAASE JIU AGH BIOYS MARAGH.

*Praise the good day in the evening,
Death may be greedy of life on the morrow.*

Formerly in the Isle of Man, now in Mr. Evans' possession (see Nos. 161, 788).

762. MULIER, AMICTA SOLE, ORA PRO NOBIS, SANCTA DEI GENITRIX.
Lady, clothed with the sun, pray for us, holy Mother of God.

At Hallstadt, near Salzburg, on the house of the Roman Catholic priest. The figure of the Blessed Virgin is painted on the wall, seated, and holding the gnomon of a dial. Its shadow falls on a scroll beneath where the numerals are figured.

763. MULTA FERUNT COMMODA SECUM
MULTA RECEDENTES ADIMUNT.

Many a good thing they bring with them, many a one they take as they go.

From Horace, "Ars Poetica," 175, 176. Formerly on the Route de Marly, Paris (with No. 769).

764. MVTVA SIC HOMINES VTIŃA CÔCORDIA ÎVGAT
VT SIBI PARTIRI COMODA CÛCTA VELINT.

O that mutual goodwill would so unite mankind, that they should be willing to share all goods alike.

TYNDARIDÆ ALTERNIS FRATRES VIXERE DIEBUS,
AT NOBIS VITAM DIVIDIT UNA DIES.

1658 RESTAURATUM ANNO 1700.

The sons of Tyndarus lived on alternate days, but one day cuts the thread of our life.

Seen on the cathedral at Albi, in 1877. The mottoes were upon two dials, facing east and west; the gnomons had disappeared, and the numerals were nearly illegible. Above each dial was an angel bearing a scroll.

765. MY CHANGE IS SURE, IT MAY BE SOON,
EACH HASTENING MINUTE LEADS ME ON:
THE AWFUL SUMMONS DRAWETH NIGH,
AND EVERY DAY I LIVE TO DIE. 1697.



ABBNEYFIELD, NEAR SHEFFIELD.

the tale of a day told over and over."—SIR WILLIAM WALLER.

On the south wall of the Unitarian chapel, at Blackley, Lancashire.

766. MY DAYS ARE LIKE A SHADOW
THAT DECLINETH.—Psalm cii. 11.

Over the door of St. Vigean's church, Arbroath, N.B.; and on a horizontal dial supported by a cluster of light columns, in Haley Hill Cemetery, near Halifax. There is no date, but the dial was probably erected in 1856 when the cemetery was opened.

"Every day is a little life, in the account whereof we may reckon a birth from the womb of the morning, our growing time from thence to noon (when we are as the sun in its strength); after which, like a shadow that declineth, we hasten to the evenings of our age, till at last we close our eyes in sleep, the image of death; and our whole life is but

767. MY TIME IS IN THY HAND.—Psalm xxxi. 17.
R.A.G. F.E.G. 1875.

This text was engraved on the base of a pedestal, bearing a horizontal dial, which stood in the garden of Bradfield Rectory, Sheffield, whilst the Rev. Reginald Alfred Gatty was rector there. The dial plate has since been removed. The same text was adopted by the late Bernard Wake, Esq., and placed by him, with verse 18 from the same Psalm (xxxii.) on a handsome vertical dial at Abbeyfield near Sheffield. It was recently inscribed (with No. 645) by H.R.H. the Princess of Wales on a dial at Sandringham; and in 1899 was placed by the Rev.

Degge W. Sitwell on the church of Leamington Hastings, when the dial there was repainted.

768. NAE MAN CAN TETHER TIME OR TIDE.

On a dial lately erected by Lord Torpichen, at Calder Hall. The motto, from Burns' "Tam o' Shanter," was chosen by Mr. Thomas Ross.

769. NASCE, MUORE. *It is born, it dies.*

At Dolce Acqua, near Bordighera.

770. NASCIMUR AD MORTEM. *We are born unto death.*

Formerly on the Route de Marly, Paris. See No. 763.

771. NATUS HOMO EX UTERO, BREVIORI TEMPORE VIVENS,
UT FLOS EGREDITUR, SED VELUT UMBRA FUGIT.

*Man born of woman, living for a very short time,
Cometh forth like a flower, but fleeth as a shadow.*

On a church above Menaggio; the text is taken from Job, xiv. 1, 2.

772. NATUS MORIERE FAC BENE VIVAS. *Having been born, thou shalt die, see thou live well.*

On an engraving of a dial in Joannis Voellius' "De horologiis Sciothericis," 1608.

773. NATUS MORTUUS. *Born dead.*

On a dial at Bellentre, near Bourg S. Maurice. It is very difficult to understand this motto. Dr. Littledale thought it perhaps meant that time is gone immediately on coming, so that its birth and death are at once. But then the words ought to be feminine to agree with *hora*, or neuter to agree with *tempus*, not masculine.

774. NE ABUTERE. *Misuse it not.*

St. Etienne de St. Geoirs (Isère).

775. NE COMPTE PAS SUR LA PREMIÈRE,
CAR TOUT DÉPEND DE LA DERNIÈRE.

*Reckon not upon the beginning,
For all hangs upon the end.*

At Le Villard, dated 1869; at Brunissard (Hautes Alpes), dated 1853; and at La Bez (Hautes Alpes), dated 1861: all of these dials bear the initials of Zarbula, the maker. The motto is also on the churches of Château Queyras (see No. 694); and of Mélézes, dated 1853.

776. NE DIFFERAS DE DIE IN DIEM. *Put not off from day to day.*
Ecclus. v. 7.

On an inn at Ventavon (Hautes Alpes).

777. N'EN PERD AUCUNE. *Lose none.*

At Fontienne (Basses Alpes).

778. NE ME PERDAS. *Lest thou destroy me.*

In the Rue St. Martin, Bayeux.

779. NE PERDEZ POINT LE TEMPS A DES CHIOSES FRIVOLES.
LE SAGE EST MÈNAGER DES TEMPS ET DES PAROLES.
QUEL ŒIL PEUT REMONTER JUSQ'AU RÈGNE DE TON ÊTRE.
1860.

*Waste not thy time on foolish things.
The wise man is careful of his words and hours.
What eye may be raised to the ruler of thy being.*

At La Bez (Hautes Alpes). These three inscriptions are on one dial, but the last line has been added later than the first two.

780. NE QUID PEREAT.

Let nothing be lost.

On Burnham Church, Somerset, with No. 604.

781. NE SISTAS TE LUX ALTIUS IRE MONET. 1832. *Stay not, the light biddeth thee go up higher.*

At Le Villard La Madeleine (Hautes Alpes). A slightly different version has been seen at St. Chaffrey (Hautes Alpes) :

NE VOUS ARRÊTEZ (PAS LÀ).
LUMIÈRE D'EN HAUT (VOUS DIT)
D'ALLER (PLUS HAUT).

Stay not there, the light from on high calls thee to come above.

782. NE VIATOR ABERRET. *That the traveller stray not.*

At Alleins (Bouches du Rhône).

783. NEC MOMENTUM SINE LINEA. *No moment without its line.*

Said to have been on the Château of Cardinal Richelieu.

784. NEC PLURIBUS IMPAR. *Equal to any foe.*

At Bauden (Var). This was the motto of Louis XIV.

785. NEC PLUS ULTRA. *Thus far and no farther.*

At St. Jean de Maurienne ; and at St. Quentin.

786. NEC SOL NEC UMBRA. *No sun, no shadow.*

On a window-dial at Old Place, Lindfield, Sussex, erected by C. E. Kempe, Esq.

787.

NEC ULTIMA SI PRIOR
DENOTAL FALLACES ANNOS.

This somewhat mysterious inscription is on two faces of a dial which is painted upon the wall of the courtyard of an old hotel, No. 47, Vieille Rue du Temple, Paris. There are four faces, and possibly the painter may have made a mistake in rendering in the inscription. It has been suggested that the words should run thus :

Nec ultimos si priores,
Fallacis denotal annos.

Nor does it mark the last year as deceiving, though it may the first.

If the lines are quoted from a poem the context might throw light on their meaning. Some difficulty was experienced in copying the motto, as the inmates of the hotel evidently objected to its being transcribed, and on two occasions came out and drove away people who were attempting to copy the lines.

A writer in "L'Intermédiaire" (ix. p. 267) informs us that the dial was made by a Carmelite, Père Sebastien Trachet, and the hotel once belonged to Louis Latellier, the King's architect and controller of the buildings of Versailles. At the end of the eighteenth century the house was called Hôtel Tarare, and inhabited by Beaumarchais.

788. NEMO SINE CRIMINE VIVIT. *No one lives without reproach.*

John Kewley, Ballafreer, fecit, 1774.

The dial, which bears this and six other mottoes (see No. 161) is made of Poolvaish marble, and formerly stood in the Isle of Man. The shape is that of a cube surmounted by a pyramid. It is supposed to have originally belonged to Sir George Moore, of Balla Mooar, Patrick, and is now in the possession of Mr. Lewis Evans, who has set it up in his garden at Barnes Lodge, King's Langley. The dial, or rather dials, show the time at Boston, Port Royal, and other places.

Kewley, the maker, is said to have lived at the farm at Ballafreer, and he erected another dial there. See No. 57.

789. NESCIA MENS FATI EST HORÆ SORTISQUE FUTURÆ. *The mind knoweth not the appointed hour, or the lot that is in store for it.*

Formerly in the convent of the Minimes, Place Royal, Paris.

790. NESCIES QUÂ HORÂ VENIAM. *Thou wilt not know what hour I come.*

On a dial at Riva, Val Sesia, dated 1829, with No. 487. A fine old watch in the York Museum dated "H. K. 1840," has the inscription "Nescis quâ hora, vigilâ."

791. NESCIamus DIEM NEQUE HORAM. *We know neither the day nor the hour.*

At Paladru (Isère).

792. NESCIT OCCASUM LUMEN ECCLESIAE. *The light of the Church knows no setting.*

At Standish Vicarage, Gloucestershire. There is a hidden meaning in this motto, due to its having been chosen by Bishop Frampton, who was deprived of the See of Gloucester as a non-juror, but was permitted to hold the vicarage of Standish, and died there in 1708. He erected the dial, and in addition to the allusion to his career, which he put into the motto, he had the gnomon shaped like the sword of the See, reversed, and pointing upwards, as an emblem of martyrdom. He is buried within the sanctuary of Standish Church, and his gravestone bears the quaint inscription, "Robertus Frampton Episcopus Gloucestrensis, caetera quis nescit?"

793. NESCITIS DIEM NEQUE HORAM. 1715. *Ye know neither the day nor the hour* (St. Matt. xxv. 13).

On the chapel of the Addolorato, Moltrasio, Lago di Como : on the Abbaye du Ronceray at Angers ; and the Château de Terrebasse (Isère). It is also given in Kircher's "Ars Magna Lucis et Umbræ. 1571."

794. NEVE AL SOL, LAMPO AL CIEL, FUMO AL VENTO,
COSÌ L'UOM FUGGE, QUAL' OMBRA IN UN MOMENTO.
*Like April snow, a flash in Heaven, or smoke in gale,
So man, short lived, is lost to view, a shadow frail.*
Given in "Notizie Gnomoniche."

795. NIHIL SINE SOLE. 1861. *Nothing without the sun.*

At Aiguilles, and at La Verdière (Var) ; also seen on a portable dial at Frankfort, with the additional word *lumine* and date, 1711.

796. NIHIL SUPRA. *There is nothing higher.*

At Les Avenières (Isère) ; and seen at Monquin in 1778.

797. NIHIL VOLENTIBUS ARDUUM. *Nothing is difficult to the willing.*

Is on a dial at Fyning House, Sussex, which was erected in the reign of George II.

798. NIL ALIUD EST VIVERE QUAM MORI. *Life is nought else but death.*

At Les Avenières (Isère), dated 1838.

799. NIL NI SIT SOL MI. *Less than nothing without the sun.*

At Alzo, on the Lake of Orta, North Italy.

800. NIL NISI CAELESTI RADIO. *Nought save by a ray from heaven.*

Applicable alike to the dial, the church, and the services, this motto is over the south door of the church of St. Mary the Virgin, at Lower

Heyford, in Oxfordshire, where there has been a church from before the Conquest. It is also found near Baslow with other mottoes (see No. 330); and on a house at Beau Coin, Jersey.

801. NIL NOMEN NIL FAMA JUVAT NIL CANDIDA VIRTUS : TEMPUS ENIM RAPIDO SINGULA DENTE VORAT.

Nought doth a name, nought doth renown avail, nought doth bright valour :

For time with its swift tooth devours each thing.

On a large brass astrolabe and sun-dial, in the Museum at Perugia. On the reverse side of the plate is—

“Ieronomus Wulparia, Florentinus, faciebat A.D. MDLXXVII,” and a second motto. See No. 424.

802. NIL SINE NOBIS. A. B. F. 1674. *Nothing exists without us.*

A dial on the wall of a courtyard on the south side of the Hôtel Cluny, Paris, had this inscription. The word *nobis* referred to the rays of the sun which were represented on its face. The Hôtel Cluny, a very beautiful specimen of rather elaborate fourteenth century Gothic architecture, was bought in 1625 for the abbess and nuns of Port Royal, and was known as Port Royal de Paris. It was re-established by Louis XIV. in 1665, on a fresh basis, and was looked upon as schismatic by the community of Port Royal des Champs. This dial must have been erected in the time of the first abbess of the new foundation, Sœur Dorothee Perdreau, who held office till 1684.

803. NISI DOMINUS AEDIFICAVERIT DOMUM IN VANUM LABORAVÉRUNT QUI AEDIFICANT EAM. *Except the Lord build the house, they labour in vain that build it* (Ps. cxxvii. 1).

On a house called the Moulin du Pied, dated 1719, at Le Fontenil sous Briançon.

804. NO LIGHT UNTHINKING FONDNESS, SUCH AS OFT
ENSHRINES IN POMP TH' UNWORTHIEST OF THEIR LINE,
PROMPTED THE TENDER THOUGHT WHICH HERE FOUND WORDS
TO TELL OF HIM WE VALUED ; ONE WHOSE FORM
UNDER THIS TURF IS MINGLED WITH THE DUST,
NO MORE TO *LIVE* ; BUT WHOSE RECORDED NAME,
ENDEAR'D TO ALL, REMINDS US HOW TO *LOVE*.

NEAR TO THIS TIME-RECORDING PILLAR'S BASE
ENTOMB'D, AND, AS BECAME HIS MERITS, MOURN'D—
POOR NEPPY LIES ! THE GENEROUS AND THE FOND—
THE BRAVE AND VIGILANT—IN WHOSE NATURE SHONE
UNITED, ALL THE VIRTUES OF HIS RACE :

NOR GRUDGED BE THIS MEMORIAL, IF ITS TRUTH
ENFORCE THE CHARGE, "BE FAITHFUL UNTO DEATH."

—Obit, September 9th, 1839, *Anno Aetate Decimo*.

In the garden of the Vicarage House at Borden, Kent, there is a pedestal bearing a sun-dial and having on its eastern and western sides two tablets inscribed with these acrostic epitaphs to the memory of a favourite Newfoundland watch dog, called "Neptune," by his sorrowing owner. These lines recall Lord Byron's "Inscription on the Monument of a Newfoundland Dog," dated Newstead Abbey, October 30th, 1808.

805. NO MARBLE POMP, NO MONUMENTAL PRAISE ;
MY TOMB THIS DIAL, EPITAPH THESE LAYS.
PRIDE AND LOW MOULDERING CLAY BUT ILL AGREE,
DEATH LEVELS ME TO BEGGAR, KINGS TO ME.
ALIVE, INSTRUCTION WAS MY WORK EACH DAY,
DEAD, I PERISH, INSTRUCTION TO CONVEY.
HERE, READER, MARK (PERHAPS NOW IN THY PRIME)
THE STEALING STEPS OF NEVER-STANDING TIME ;
THOU'LT BE WHAT I AM, CATCH THE PRESENT HOUR,
EMPLOY THAT WELL, FOR THAT'S WITHIN THY POWER.

Quoted in the "Gent. Mag.," vol. xiv., p. 332, A.D. 1744, from Faulkner's "Dublin Journal," as "Inscription on a dial to be erected by his desire on the grave of Edward Bond, of Bondvil, in the county of Armagh, Esq."

806. NOBIS PEREUNT ET IMPUTANTUR HORAE. *The hours perish to us, and are accounted also to us.*

On the cathedral of St. Colman, at Cloyne, near Cork. ET NOBIS PEREUNT ET IMPUTANTUR may be read at Les Crottes, near Embrun (Hautes Alpes).

807. NOISELESS FALLS THE FOOT OF TIME
WHICH ONLY TREADS ON FLOWERS.

This quotation from a song by the Hon. W. R. Spencer is inscribed on the vase of a stone pedestal with a horizontal dial, in the garden of Jordan Gate, Macclesfield, erected by Samuel Pearson, Esq., and Jane, his wife. The name "Quiz" and date 1876, are also carved on the stone, in memory of a favourite terrier who was buried close by. On the dial plate is No. 980.

808. NOLI CONFIDERE NOCTI. *Trust not to the night.*

On the Manor House, Mickleton, co. Gloucester.

809. NON CEDIT UMBRA SOLI. *The shadow yieldeth not to the sun.*

A horizontal dial with the gnomon turned towards the sun, and this motto accompanying it, was the device of Giovanni Trivulzio, Governor

of Milan in the year 1500 for Louis XII. The motto evidently implies that the shadow is of equal importance with the sun in telling the time.

810. NON DEDERUNT TIBI DI QUAM PRAESENTEM SUPERI HORAM :
AD FINEM ASPICIAS, HORA FUTURA LATET.

*The gods above have given thee but the present hour.
Look on to the end, the future hour lies hid.*

At Carville Hall, an old mansion on the Roman Wall, near Wallsend, is a fine old sun-dial with faces so that the pointer is parallel to the face (*i.e.*, declining dials). The motto is perhaps of more recent date than the dial. (From a correspondent in "The Guardian.")

811. NON HORAS NUMERO NISI SERENAS. *I count no hours that are not bright.*

On a horizontal dial in the flower-garden at Mount Quhanny, Fifeshire, and also on a window dial designed by Mr. T. Ross at Inch House, Midlothian. See No. 65.

812. NON NISI CAELESTI RADIO. *Not save by a ray from heaven (do I tell the time).*

On the church porch at Haydon Bridge, Northumberland. The dial is square, and the motto is above it, the words being divided by a full-faced sun which emits rays all round. They bear an obvious moral signification. There is no date on this dial, but the church was built out of the nave of an older church and opened for service, July, 1796. The features of the Sun God are too decidedly Hanoverian to suppose a much earlier date.



HAYDON BRIDGE, NORTHUMBERLAND.

"The spirit of man is like a sun-dial, which is of no use but when the sun reflecteth on it. You likewise expect not your understanding may have any true light and direction for the government of people, if not enlightened with a ray of God."—N. CAUSSIN, *The Holy Court*, translated by Sir Thomas Hawkins.

813. NON NUMERO HORAS NISI SERENAS. *I count no hours that are not bright.*

On a dial at Downham Hall, Norfolk, with No. 457. It has also been cut round the pedestal of a horizontal dial in the garden of Holmhurst, Sussex, by Mr. A. J. C. Hare. The dial-plate is of the eighteenth century and came from the Vatche, Bucks. It belonged to Bishop Hare, who lived in the reign of George II. and married Miss Alston, heiress of the Vatche; their arms are engraved on the plate. The same motto is on an east vertical dial on a house in the Burg Strasse, Nuremberg; and in a slightly different form ("Non

numero nisi serenas horas") is on an old mural dial in the garden of the Château de Passy, set up by an ancestor of Arago.

814.

NON REDIBO.

I shall not return.

CHARLES GREENWOOD, FECIT, 1790.

On a house in Westgate, Grantham.

"Be watchful thou; Time posts away amain,
Nor can the hour that's past return again."

THOS. ELWOOD, "*To such as stand idle in
the market place.*"

815. NON REDITURA. *Not to return.*

At Évian, Savoy.

816. NON REGO NISI REGAR. *I rule not if I be not ruled.*

On the Crown Inn at Uppingham. The dial is square—black and gilt—and the motto acknowledges submission to the sun. It also illustrates the profound truth that, as A'Kempis expresses it, "No man ruleth safely but he that is willing to be ruled." See No. 450.

817. NON SINE LUMINE. *Not without light.*

On the south wall of the church of St. Catherine Cree, Leadenhall Street, London. The dial is cut in the stones of the building between two of the windows facing the street, and has lately been cleaned and re-gilt, so that it can once more tell the time of day to anyone who looks at it, though owing to the height of the opposite houses there must be many hours in the day when "Sine lumine" would be only too appropriate a motto. St. Catherine Cree is one of the few churches built in the seventeenth century. It was consecrated by Archbishop Laud in 1631. The dial is shown in an engraving of 1736 as bearing the date MDCCVI. There was a dial also on the tower at the same period. The same motto is on Stoke Albany Church, Northants.

818. NON SIT VOBIS VANUM ANTE LUCEM SURGERE. 1765. *Let it not be fruitless to you to rise before the dawn.*

At Izeaux (Isère).

819.

NON SONO,

SED DONO

MONITIEM HORAE.

NON DONO

IN OTIUM PRONO

OCCASIONEM MORAE.

*I smite no clanging bell,
And yet each hour I tell
Of every day.*

*My noiseless shadow cries
In speech heard by the wise
Against delay.*

Written by the Rev. S. E. Bartleet for a dial intended to be placed on the south porch of Painswick Church, Gloucestershire, by the Rev. W. H. Seddon, whose family motto is "Non sono sed dono"; but the idea has never been carried into execution.

820. NON TARDUM OPPERIOR. *I tarry not for the slow.*

There is a stone figure of Time, bearded and with wings, on the terrace at Duncombe Park, Yorkshire (the seat of the Earl of Feversham), which is represented as about to carry away a vase-shaped pedestal, on the top of which is a dial thus inscribed. The figure, which is boldly sculptured, was the work of a local artist, the Helmsley stonemason, about the year 1750, when the terrace was made. Dr. Drake, in his "Lines on Duncombe Park" ("Gent. Mag.," 1823), describes the place:

"Where Saturn's statue bids the iron shade
Point the swift minutes as they rise and fade."

821. NON UMBRA SED LUMINE PARI. 1772. *With equal light, not with equal shadows.*

On the farm buildings of the Château de Cayla (Tarn), the home of Eugénie and Maurice de Guérin.

822. NONE BUT A VILLAIN WILL DEFACE ME.

Is to be seen on the parish church, Kidderminster.

823. NORMA DEL TEMPO INFALLIBILE IO SONO. *Unfailing rule of time am I.*

On the church at Pieve, near Cento, in the Romagna.

824. NOS EXIGUUM TEMPUS HABEMUS, SED MULTUM PERDIMUS. *We have little time, but we waste much.*

At Hatherley in Gloucestershire. Sir W. Scott says likewise:

"Redeem mine hours—the space is brief—
While in my glass the sand-grains shiver;
And measureless thy joy or grief,
When time and thou shalt part for ever."

825. NOS JOURS PASSENT COMME L'OMBRE. *Our days pass by like the shadow.*

Copied in 1860 from a dial painted on the wall of a house at Antibes (Alpes Maritimes). The same motto has been read at Blandin (Isère), dated 1749; on the church of Vieux (Tarn), between Brignoles and Le Luc (Var), dated 1808; and on the Presbytère at Causson (Ariège). With a slight change (NOS JOURS SE PASSENT COMME L'OMBRE) it has been seen at the Hôtel Dieu, Paris.

826. NOS JOURS S'ÉCOULENT COMME L'OMBRE. *Our days glide away like a shadow.*

At Pont-en-Royans (Isère).

827. NOSCE TEIPSUM, 1740, T. S. *Know thyself.*

This is on Whitley Hall in the parish of Ecclesfield, an Elizabethan house, which belonged to Thomas Shirecliffe in 1740; also on a house which stands in the High Street, Lewes; and on the cross-dial at Elleslie, near Chichester. See No. 104.

828. NOSCE TEIPSUM, NIHIL NIMIS. *Know thyself, naught in excess.*

Is on an engraving of a dial in "Gnomonice de Solariis," 1572, by Barthol: Schultz, with other mottoes.

"For how may we to other things attain,
When none of us his own soul understands?
For which the devil mocks our curious brain,
When—Know thyself, his oracle commands.

"For why should we the busy soul believe,
When boldly she concludes of that and this;
When of herself she can no judgment give,
Nor how, nor where, nor whence, nor what she is.

"If aught can teach us aught, affliction's looks
Making us pry into ourselves so near,
Teach us to know ourselves beyond our books
Or all the learned schools that ever were."

SIR JOHN DAVIES' *Nosce Teipsum.*

829. NOSSE CUPIS VARIOS SOLIS LUNAEQUE LABORES. *Thou wouldst know the different toils of sun and moon.*

On a brass dial with a movable plate for lunar hours, seen in a shop in London.

830. NOSTRA LATET. *Our hour is hidden.*

Locality unknown. Quoted by Leadbetter, 1756.

831. NOSTRA SALUS PENDET AB UNA. *Our salvation depends on one hour.*

At Maison Millaiz, La Rivière (Isère).

832. NOUS AVONS BESOIN DE PEU, ET POUR PEU DE TEMPS. *We need but little, and for a little time.*

This sentiment is versified by Goldsmith in "The Hermit":

"Man wants but little here below,
Nor wants that little long."

The motto is on a house near Aigle, in Canton de Vaud, Switzerland.

833. NOUS PASSONS COMME L'OMBRE. *We pass away like the shadow.*
At a mountain hamlet near La Frette (Isère).

834. NOW IS THE ACCEPTED TIME (2 Cor. vi. 2).

Formerly on a dial near Danby Mill, in the parish of Leyburn, Yorkshire, but in 1884 it could not be found.

835. NOW IS YESTERDAY'S TO-MORROW.

On the porch of East Leake Church, Notts.

"To-morrow, and to-morrow, and to-morrow,
Creeps in this petty pace from day to day,
To the last syllable of recorded time;
And all our yesterdays have lighted fools
The way to dusty death."

Macbeth, Act v, Scene 5.

836. NOW OR NEVER. 1614.

Once rudely engraved on a vertical dial fixed on the top of a buttress of Monk Fryston Church, Yorkshire, but in 1884 it was nearly obliterated. The inscription ran thus:

"NOVORNEVER
Ivne + 1614"



NEAR DANBY MILL, YORKSHIRE.

It has been deciphered on a square-faced dial, with four gnomons, and surmounted by a ball, which rests on a tall elegant stone shaft in Bolton Percy Churchyard, Yorkshire. It is on the south face, and on the north side there is a faint trace of a former inscription, now wholly illegible from time and weather. The Rector says a tradition exists that the effaced words were "*rationibus suis computandis*," which may be supposed to be an exhortation to sum up your accounts. On Bolton Percy Rectory is an uninscribed dial, bearing the date 1698.

837. NOW OR WHEN.

On the south-west tower of Beverley Minster.

838. NOX VENIT. REDIME. LUX ES. *Night cometh. Redeem (the time). Thou art light.*

These inscriptions are respectively on the west, south, and east faces of a cubical dial which stands upon a flat tombstone in Greystoke Churchyard. On the north side of the block is engraved, "Graystock. Lat. 54° 46'. J. G. MDCCX." There are gnomons on three of the faces.



GREYSTOKE CHURCHYARD.

839. NUL QU'UN. *None but one.*

This motto was formerly used by the family of Digby, and it is

engraved with their arms and the date 1670 on a dial at Gayhurst House, near Olney. The Digbys owned Gayhurst from 1596 to 1704. There is also the inscription, "Walter Hayes at the Cross Daggers in Moorfields, Londini fecit." The Cross Daggers seems to have been a renowned place for dial-making.

840. NULLA CERTA MANET. *Nought remains sure.*
At Evian (Savoy).

841. NULLA DIES SINE LINEA. *No day without its mark.*
On the cross-dial at Elleslie, near Chichester (see No. 104).

842. NULLA È PIÙ PREZIOSO DEL TEMPO. 1859. *Nothing is more precious than time.*
At Pieve di Rendana.

843. NULLA EST AUSTRALIS UMBRA. *There is no shadow in the south.*
On a house at Campo Rosso, near Bordighera.

844. NULLA EST META LABORIS. *No rest from toil.*
In the Place at Moissac (Tarn).

845. NULLA FLUAT CUJUS NON MEMINISSE JUVET. *May no hour pass which it is not a delight to remember.*
On the Lycée at Compiègne; and was in 1787 on the Collège de Navarre, Paris. It has also been read at Bruges.

846. NULLA FLUAT CUJUS NON MEMINISSE VELIS. *Let no hour go by which you do not wish to remember.*
On a convent at Fréjus; and in the square La Fayette at Toulouse. It was formerly in the abbey gardens of St. Germain des Prés, Paris; and in the Rue St. Antoine, Paris.

847. NULLA HORA SINE LINEA. *No hour without its mark.*

This motto was read in 1861 in the cloisters of the cathedral at Chambéry. There was a large mural dial on each side of the quadrangle (see Nos. 246, 304, 1157), but two of them were much broken and defaced. They had evidently borne many years of Alpine storms. The building is now the Archevêché, and adjoins the cathedral, which was built in the fourteenth and fifteenth centuries, having been finished in 1430.

The motto is also on two hanging portable dials with calendars at the back, in Mr. Evans' collection. One is dated 1716, and both were made by Christian Karl Schindler of Nuremberg.

In "De Symbolis Heroicis," Lib. vi. 250 (Antwerp, 1634), this motto is given with the accompanying design. Under it is inscribed, "Laurentij Prioli, Ducis Venetæ Reipublicæ, symbolum fuit solare horologium cum eâ epigraphæ: *Nulla hora sine linea*. Nullam in Principatu horam transigere sine linea, et benefactio ars est et laus multò præstantior, quàm cùm Apelles non fuit dies sine lineâ."



FROM "DE SYMBOLIS HEROICIS."

848. NULLA IL RAGGIO MI VAL SE MANCA L'OMBRA (Ab. Certani). *Nought doth the ray avail if shadow there is none.*

Given in "Notizie Gnomoniche."

849. NULLA MEIS SINE TE QUÆRATUR GLORIA REBUS. *Let me seek no honour for my own estate without giving honour to thee.*

On a honestone dial (see No. 8).

850. NULLA SINE SOLE UMBRA. *No shadow without sun.*

At Malaucène (Vaucluse).

851. NULLA VESTIGIA RETRORSUM. INDICE UTERE. *There are no steps backward. Mark the pointer.*

On a horizontal dial with a stone pedestal, at Lake House, Wilts, an interesting building of Elizabethan date. Comp. No. 1572.

852. NULLI OPTABILIS
DABITUR MORA;
IRREVOCABILIS
LABITUR HORA:
NE SIT INUTILIS
SEMPER LABORA,
NEVE SIS FUTILIS.
VIGILA, ORA.

*None from Time's hurrying wain
Winneth delay;
Ne'er to come back again
Speedeth each day:*

*While its few hours remain
Labour alway.
Lest thou should'st live in vain,
Watch thou and pray.*

These lines and the free English rendering of them were written by the Rev. S. E. Bartleet, and put by him upon a dial which stood on the lawn of the vicarage garden at Crompton (or as it is more commonly called, Shaw), near Oldham, Lancashire. The dial-plate has since been moved into the churchyard and placed upon the shaft of the old mortuary cross, from which a previous plate had been stolen. The Latin lines were inserted in the "Guardian," and they have been inscribed, but in slightly different order, upon a dial erected by Henry Hucks Gibbs, Esq., at Aldenham Manor House, Elstree. It is worth recording that this motto of Mr. Bartleet's has received, from several people, the compliment of being considered "too good to be true." He had so thoroughly caught the style and spirit of the mediæval inscriptions that one correspondent went so far as to write to the "Guardian," and contradict the fact of Mr. Bartleet's authorship by stating that *Lord Coleridge found the motto on an old clock in Devonshire, and gave it to Mr. Justice Denman to translate, who handed it in to the correspondent!*

It is due to Mr. Bartleet to give an extract from Lord Chief Justice Coleridge's reply to this statement, adding the explanatory fact that Mr. Bartleet's dial was made and engraved in Manchester, and exhibited in a shop-window there, before it was set up at Shaw.

Lord Coleridge wrote: 28 Oct. 1889.—"It was given me many years ago as having been seen at Manchester, and as I understood, on a dial. I was charmed with the verses, and in speaking of them said, I thought they must be mediæval, but that I did not know the author in the least. I gave them to my old friend, Mr. Justice Denman, who gave me in return a very fine version of it. . . . I am very glad to know the real author. Mr. Justice Denman tells me that he very likely mentioned Devonshire, having forgotten that I had spoken of Manchester, and from the fact that I live in Devonshire in the neighbourhood of fine old churches and houses."

The following translation was given by Mr. Justice Denman to Mr. C. E. Kempe, who inscribed it on a window dial at Old Place, Lindfield, Sussex:

TO NO ONE IS GIVEN
RIGHT OF DELAY;
NOTED IN HEAVEN
PASSETH EACH DAY;
BE NOT THOU FRUITLESS,
WORK WHILE YE MAY;
TRIFLING WERE BOOTLESS,
WATCH THOU AND PRAY.

A slightly different version, also attributed to Mr. Justice Denman, has appeared in the "Guardian"; and another translation by Sir Herbert Maxwell, Bart., was given in "Blackwood's Magazine," Jan. 1891. See No. 526.

853. NULLIUS PENITEAT. *May no hour cause thee to regret it.*

On the Church at Nemours (Seine et Marne).

854. NUMERA UTERE PROPERA. *Count them, use them, make speed.*

On the Presbytère of St. Pierre des Corps, Tours. Also on a former Jesuit college at Tours, with No. 1194.

855. NUMERARE DIES NOSTROS ITA DOCE NOS UT INDUCAMUS ANIMUM SAPIENTIÆ. A.D. 1664.

So teach us to number our days that we may apply our hearts unto wisdom.—Psalm xc. 12.

This text, which is taken from the Zurich version of the Bible printed in 1543, is engraved on the north side of a cube of red sandstone which was found in 1873 at Woodford Halse, Northamptonshire. The cube is $8\frac{1}{2}$ in. wide on each side, and $8\frac{1}{4}$ in. high. It was discovered in "Parson's Close," adjoining the Vicarage garden, in a pond which was being emptied. On the east, south, and west sides there are dial faces, but the gnomons are lost. The east and west dials are drawn on parallelograms set diagonally with the face, and show the hours from 4 to 10 a.m., and 2 to 8 p.m. respectively. In the base is a carefully made semi-globular cavity, 4 in. in diameter, and this was probably for the sake of accurate adjustment. On the top there is also a small cavity. The "Zurich" Bible is a Latin translation from the Syriac.

856. NUMERAS MOMENTA, DIES METIRIS ET ANNOS,
NESCIS EXTREMUM QUÆ FERAT HORA DIEM
1688

Thou numberest the moments, thou measurest the days and years, knowing not what hour may bring the last day.

On the Abbey of St. Corneille, near Compiègne, in 1816.

857. NUMQUAM AURI, SED OCULO SÆPE GRATA. 1742.

Never acceptable to the ear, but often to the eye.

This motto was read in 1870 on a south-west declining dial, on the wall of the courtyard of the Mairie at Perpignan. It stood between windows, some distance below the overhanging Spanish roof, whose border of greenish glazed tiles rests here and there on carved wooden owl-like figures, which project like gargoyles from the wall. There were two or three dials in this court over the low marble arcades, but only one bore an inscription. The building itself forms a part of the old

Loge—from the Spanish “Lonja,” or “Exchange of the Merchants.” The façade, with its pointed arches, “exhibiting flamboyant ornaments, foliage and tracery” dates from the fifteenth century. The carving is a good deal injured; the arches are now filled with glass, and that portion of the building is used as a café. It is one of the most remarkable structures in the old capital of Roussillon. The dial, however, is not of Spanish construction, as Perpignan came into the possession of the French in 1650.

858. NUMQUID NON PAUCITAS DIERUM FINIETUR BREVI?
DIMITTE ERGO ME, UT PLANGAM DOLOREM MEUM.—Job, x. 20.
CUR FACIEM TUAM ABSCONDIS ET ARBITRARIS ME
INIMICUM TUUM.—Job, xiii. 24.

Are not my days few? cease then and let me alone that I may take comfort a little.

Wherefore hidest thou thy face, and countest me for thine enemy?

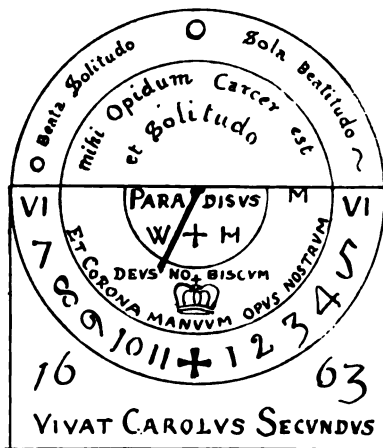
At the Abbey of Ferrières; on either side of the dial there are two figures, on one an angel beside a woman who holds her head in her hands, and on the other a woman showing a small sun-dial to an angel.

859. NUNQUAM MALE LAPSA REDEBIT. *The ill-spent hour will never return.*

Locality not known.

860. NUNQUAM REDITURA. *Never shall the time return.*

With Nos. 475, 980, in the Passage du Petit St. Antoine, Paris.



IN PRIESTGATE, PETERBOROUGH.

861. NUNQUAM SINE LUCE. *Never without light.*

Locality not known.

862. NUNC EX PRAETERITO DISCAS.

Now mayst thou learn from the past.

Is on Warrington School.

863. O BEATA SOLITUDO, O SOLA BEATITUDO: MIHI OPIDUM CARCER EST, ET SOLITUDO PARADISUS. W  H. DEUS NOBISCUM ET CORONA MANUUM OPUS NOSTRUM. 1663. VIVAT CAROLUS SECUNDUS. *O blessed solitariness—O solitary blessedness: the town to me is a prison, and solitude my Paradise. O God, be with us, and crown the work of our hands. Long live Charles II.*

The dial which is thus inscribed is formed of a single stone set into a plastered gable of a house fronting a garden in Priestgate, Peter-

borough. At the time when it was sketched the house belonged to Mr. G. Wyman. It was formerly held by a family named Hake, which may account for the initials, W. H. The crown on the lower part of the dial is much worn away. It was once gilt.

864. O COONIEE CRE CHA GIARE AS TA MY HRAA. *Oh remember how short my time is.*—Psalm lxxxix. 46.

This motto, from the Manx Psalter, is, with Nos. 249, 1385, 1530, on a sun-dial which stands at the gateway of St. Patrick's Church, in the village of Patrick, near Holm Peel, Isle of Man. The dial is of Pooilvaish marble from the quarries near Castletown.

865. O COUNT THE HOURS AS ONE BY ONE THEY FLY,
AND STAMP THE CROSS UPON THEM ERE THEY DIE.

On a cross dial erected for a member of the Baring family, possibly for a daughter of the first Lord Ashburton, who lived at Alverstoke, near Gosport.

866. O JËSU MON AMOUR, DIEU SOIT BËNI (*sic*). L'an VIII de la re
(? de la Republique) (1800). *O Jesu, my Beloved, blessed be God.*

At the Hameau de Chimilin, near Aoste (Isère).

867. O JUNGFRAU DIE DER SCHLANGE FEIND,
BLEIB IÑER ELEPHANTENS FREUND:
MIT DEINEM SCHÜTZ BEDECKE DIESES HAUS,
TREIB KRANKHEIT NOTH UND JEDES UNHEIL AUS.

O Virgin, enemy of the serpent, remain ever the Elephant's friend, with thy protection cover this house, drive sickness, want, and every evil out.

This motto, on the wall of the Gasthof zum Elephanten, Brixen, Tyrol, can only be explained by a description of the dial. It represents the Blessed Virgin crushing the serpent which has wound itself round the globe on which she stands. One foot is on the serpent's body, the other rests on the crescent moon, from beneath which the reptile strives to lift its head. The Virgin's eyes are raised to heaven, and she holds in her hand the lily and the cross. The hours are marked on a scroll across the globe, and the inscription is on another scroll below. The hotel takes its name from an Elephant which is painted in fresco on the other side of the house, where also is an inscription in old German explaining the picture, as follows:

"Als mā sagt 1551 Jar dē 2 tag Juni furwar
Was dises thier Elephādt in teutschlād unerkāť
Al hier durch gfuere worde unsere dē gros nan f^{tu} un Hern
Maximilian In Behan Kngreich Erhz^{gn} sū Ost^{reich} de
Andre Bosch der liesz maln Lenhart Mair daz vefahn
Gott will das haus in seiner verhuetung haben
Des Inhaber leib Ehr und guet allizen bewaren
Au 1645 hat Lenhart Muller dis wider beerneurn lasen."

(As they say, 1551 year 2nd day of June in truth was this animal the Elephant, unknown in Germany, brought here by our high and mighty Prince our Lord Maximilian in Bohemia kingdom, Archduke of Austria. Andre Bosch who experienced this made Lenhart Mais paint it. God vouchsafe to hold the house in His protection, the inhabitants' body, honour, and property, to keep from harm. In 1645 Lenhart Muller had this renewed again.)

There are also the following inscriptions :

Wen da baut an der strassen muss Jederman zu davon reden lassen.
1713.

In Jahre 1870 hat Hanns Heiss diese Bilder wieder erneuern lassen v. mal. AR.

He who builds in the street must expect everyone to talk about it. 1713.
In the year 1870 Hanns Heiss caused the pictures to be renovated by the painter (?) A. R.

The sun-dial was probably painted at the same time.

868. O MORTEL, PENSE À LA MORT. *O mortal, think upon death.*
At Les Brévières (Savoy).

869. O SOLEIL TU PARAIS, TU SOURIS, TU CONSOLES LA TERRE. 1852.
O sun, thou appearest, thou smilest, thou comfortest the earth.

On a house at La Vachette, on the road from Briançon to the Mont Genève. The dial is simply outlined, and has a peacock at the top.

870. 'Ω ΘΕΟΣ, 'Ο ΘΕΟΣ, ΜΟΥ ΠΡΟΣ ΣΕ 'ΟΡΘΙΖΩ.
O God, thou art my God, early will I seek Thee.—Psalm lxiii. 1, from the LXX.

This verse is over the south porch of the church at Walkern, Herts. "The inscription is nearly obliterated," said Archdeacon Grant of St. Alban's in 1878, "but ought certainly to be preserved."

The following passage from Geikie's "Life of Christ" (vol. i., pp. 219, 222) helps to reveal the full meaning of this and similar verses in the Psalms. "The morning sacrifice could not be slain before the first appearance of the morning light. A watcher, therefore, standing on the roof of the Temple, looked out for the first glimpse of Hebron, far off on the hills, as the sign of morning having come. When it was visible the summons was given: 'Priests, to your ministry! Levites, to your places! Israelites, take your stations!' The priests then once more washed their feet and hands, and the service finally began. "With the first sight of the rising sun everyone bows his head in prayer, wherever at the moment he may be. Yonder a Pharisee, who has purposely let the hour overtake him in the street, suddenly stops, and ties his Tephillin broader and larger than common on his forehead and arm.

The olive gatherer, with his basket, prays when he is in the tree.
Pilgrims and citizens are alike bent in prayer."

871. O TV CHE IN ME GWARDI
VICIN MI TROVERAI QVÂDO
IO TIRO I COLPI SE BEN NON VEDI
CHE PIÙ CHE TU SCHIVAR IO BEN SO FARLÀ
*O thou who gazest on me here,
Time will be thou shalt find me near,
When I deal blows thou canst not see,
Ay, more of them than thou canst flee,
So deft in striking them am I.*

On the church of the Madonna di Campagna, near Pallanza. The dial lines are traced in red on a plastered wall; a skeleton, half length, is resting his right hand on the gnomon, and in his left holds a torch or scythe. The dial was sketched in 1888, and was then much defaced.

872. O TU, QUI BINAM UNO GNOMONE CONSPICIS HORAM,
HEU! MISER, IGNORAS QUA MORITURUS ERIS. 1822.
*On one dial hours twain thou canst descry,
But not, alas! the hour when thou shalt die.*

The "hours twain" referred to in this motto indicated the arrangement of the figures on the dial, which, besides telling the hour of the day in the usual manner, also showed the time by the Italian mode of reckoning; that is, as the hours are counted from sunset to sunset, going through the whole course of the twenty-four numbers. The lines of these additional hours, from xii to xxiv, which were traced upon the dial plane, declared the time by the shadow of a point in the style, as it fell upon them. The dial itself was, when sketched in 1867, a large and wide one, the figures being represented in rolling clouds; and it was painted on a house wall that faces the sea at an opening of the main street of Cogoleto, a fishing village about eighteen miles west of Genoa, and a reputed birthplace of Christopher Columbus. The room in which, it is said, he was born, is still shown, and there are many inscriptions on the outside of the house testifying to the tradition, which were placed there by a member of the family in 1650. The tradition is firmly held by the inhabitants; and Washington Irving, who disputes the claims of all other places, save Genoa, nevertheless admits that there is some evidence in favour of Cogoleto. Admiral Colombo, with whom the great discoverer first sailed, was a native of this place; and the portrait of Columbus has been preserved here by his descendants. Tennyson seems to yield to this local claim:

How young Columbus seem'd to rove,
Yet present in his native grove,
Now watching high on mountain cornice,
And steering, now, from a purple cove,
Z Z

Now pacing mute by ocean's rim ;
Till, in a narrow street and dim,
I stay'd the wheels at Cogoletto,
And drank, and loyally drank to him.

The Daisy.

873. O VIATOR, HORAM BIBENDI ASPICE. 1870. *O wayfarer, behold the hour of drinking.*

On a house at Champs, on the Col de Sestrières, near Fénestrelles.



BROUGHAM HALL.

874. O VOYAGEUR VOICI L'HEURE
PENSE À TA DERNIÈRE DEMEURE.
*O traveller, behold the hour,
Think upon thy last resting place.*
At St. Siméon de Bressieux (Isère).

875. O WRETCHED MAN REMEMBER THOU MUST
DIE. SENCE ALL THINGS PASSE AND NOTHINGE
CERTAINE BE.

This inscription is cut on one side of the cubical top of a pedestal at Brougham Hall, Westmoreland, which bears a horizontal dial on the top. On another side are Nos. 1355, 1530, with a skull and hour-glass : a third side bears an armorial shield, Brougham impaling either Fleming or Hudlestone : and on the fourth side is the date 1660 and initials T B E for Thomas and Elizabeth Brougham.

876. OBREPIT NON INTELLECTA SENECTUS. 1714.
Old age creeps on unawares.

On St. Bridget's Church, Bridestowe ; and on St. Andrews', South Tawton, Devon. The motto is from Ausonii Epigramm. 13.

"Senescimus, effugit aetas,
Obrepit non intellecta senectus,
Nec revocare potes, qui periere, dies."

877. OBSERVE HOW FAST, TIME HURRIES PAST,
THEN USE EACH HOUR, WHILE IN YOUR POWER
FOR COMES THE SUN, BUT TIME FLIES ON,
PROCEEDING EVER, RETURNING NEVER.
R. B. 1810.

On a fine pedestal dial at Newhall, near Penicuik, N.B., which stands in the garden, upon four steps. Round the base of the pillar there are eight panels, arranged round the four sides, one above another. The motto is engraved on one of these panels, in another there is the following inscription : " Here Alexander Penicuik of Newhall M.D. is said to have given Allan Ramsay the plot of his celebrated Pastoral Comedy of the

Gentle Shepherd." This explains the contents of the six remaining panels. (1) Contains a design consisting of shepherd's crook, and other pastoral implements. (2) Habbie's How, and Mause's Cottage (Habbie's How is a romantic spot in the neighbourhood of Newhall, and Mause is one of the characters in the comedy). (3) The Washing Green, and Symon's House. (4) The Craigg Bield and Gland's Onstead (Gland and Symon are also characters in the poem). (5) A ship inclosed in an oval margin. (6) "Here Allan Ramsay recited to his distinguished and literary patrons, as he proceeded with them, the scenes of his unequalled Pastoral Comedy, amid the objects and characters introduced into it."

878. oCVLIIs NON aVRIBVs ADsVM. *I speak to eyes, not ears.*

In 1859 this motto was on the Abbey of Royamont (Seine et Marne). The chronogram gives the date of the construction of the dial 1672, a year in which many important repairs of the building were made.

879. ODIUM SINE SOLE TRANSIT. *Hatred passeth by without the sun.*

With No. 343. On the Mairie at Voulx (Seine et Marne).

880. O'ER EVERY HOUR THAT'S BRIGHTEST
A SHADOW CREEPS;
AND HE WHOSE LAUGH IS LIGHTEST
FULL OFTEN WEEPS.
O LOOK WE FOR THE MORROW
WHICH HATH NO NIGHT,
WHEN LOST IS EVERY SORROW
IN GOD'S OWN LIGHT.

Suggested as a motto by the Rev. S. E. Bartleet.

881. OF SHADE AND SUNSHINE FOR EACH HOUR
SEE HERE A MEASURE MADE:
THEN WONDER NOT IF LIFE CONSIST
OF SUNSHINE AND OF SHADE.

This stanza is at Dial House, Wadsley, near Sheffield, on a stone dial let into the wall.

882. OGGI IN VITA, DIMANE MORTO. *In life to-day, to-morrow dead.*

At Bon Conseil, Savoy; and at Chapelle St. Jacques.

883. OGN' ORA UN ALTRA AL VIVER TUO SCEMA,
NON AL USARNE MAL PENSATI E TEMA.
*Each hour another from thy life doth bear:
See thou misuse it not, bethink thee, fear.*

On a house, Piazza San Michele, Ventimiglia.

884. OH! EMPLOYEZ-LES BIEN. 1835. *Oh! use them well.*

At Mirabel, France.

885. OII QE LE TEMPS PASSE VITE! *Oh, how quickly time passes!*

This quaintly spelt motto was seen in 1860 over the door of a small house which stood in a garden a little distance from the road between Cannes and Grasse. The dial was circular and faced south. It represented the sun, full-face, broad and smiling, with his hair dressed after the fashion of a king in a pack of cards, on a green background. He held the gnomon like a pipe in the corner of his mouth, and seemed to be regretting the swift passage of a jolly life.

886. OISIF, LE TEMPS PASSE. *Idler, time passes away.*

At Elne (Pyrénées Orientales).

887. OMBRA FALLACE, CHE MENTRE S'APPRESSA FUGGE. *Ah, cheating shade, thy near approach is flight.*

No place assigned.

888. OMBRA FUGACE DALLA LUCE USCITA
MISURO AL SOLE I PASSI, ALL' UOM LA VITA.

*A fleeting shade of heavenly light begot,
I mark, O sun, thy steps, O man, thy lot.*

At San Bartolomeo, near Spezia.

889. OMBRE TROMPEUSE QUI FUT A MESURE QU'ELLE APPROCHE,
CETTE VIE MORTELLE QUI PLAÎT, FINIT PLUS VITE QUE L'OMBRE.
1827.

*Deceptive shadow which flies as it approaches,
This mortal life which pleases, flies more quickly than the shadow.*

At Mayres (Isère).

890. OMNE TULIT PUNCTUM QUI MISCUIT UTILE DULCI (Hor. "Ars Poetica," 343). *He who has mingled sweetness with utility has gained the applause of all.*

On a dial erected by the late Sir John Peter Grant, G.C.M.G., K.C.B., in the kitchen garden at Rothiemurchus, Aberdeenshire. The garden is very beautifully situated on the slope of Ord Bain Hill, and the pedestal stands at the intersection of four grassy paths bordered with flowers and vegetables growing together, an intermixture which led to the selection of the motto.

891. OMNES AEQUALES SOLA VIRTUTE DISCREPANTES.
fecit Bourdet 1786.

All men are equal, and differ only in virtue.

At the Hameau de l'Agnelas, Voiron (Isère).

892. OMNES SECANT, ULTIMA NECAT. *All wound, the last kills.*

At Vispthal.

893. OMNES SINT DEO. 1868. *Let all men be for God.*

Route des Salces, Perpignan.

894. OMNES TIME PROPTER UNAM. *Fear every hour because of one (the last).*

At Visp, Switzerland.

895. OMNES UNA NOS MANET. *One hour awaits us all alike.*

At La Thuile de Granier, Savoy.

896. OMNES VULNERANT, ULTIMA NECAT. *All wound, the last kills.*

This motto, with Nos. 108, 443, is on a dial at Cadder, near Glasgow. The dial consists of a stone block, $14\frac{3}{4}$ inches square, mounted on a shaft three feet high. "On the east, west, and south faces there are large cup hollows, $9\frac{3}{4}$ inches in diameter, all carefully lineated. Over each hollow is a motto. The gnomons consist of thin pieces of metal stretched across the cups. There is a metal dial plate on the upper surface, with a most beautifully worked gnomon of thin brass, perforated and chased, and containing the arms of the Maitland and Lauderdale family—a lion rampant within a double tressure."

On the north side of the dial are the initials of Charles Maitland and his wife, Lillias Colquhoun, entwined, with the date 1698. Lillias Colquhoun was the widow of Sir John Stirling, of Keir, and had his estate of Cadder settled on her for life. She married, secondly, Charles Maitland, son of the third Earl of Lauderdale.

897. OMNIA A DEO. 1668. *All things are from God.*

The family motto of Prince Rospigliosi, which, with his coat of arms is on a sun-dial on the farm at Spicchio, near Lamparecchio, belonging to the Villa Rospigliosi.

898. OMNIA CUM TEMPORE PRÆTEREVNT. *All things pass away with time.*

On a small brass sun-dial and calendar in the British Museum. It is beautifully engraved with the face of the sun and other ornaments.

899. OMNIA FERT ÆTAS. *Time brings all things.*

(From Virgil, Ecl. ix. 51.) On the porch of an Elizabethan manor house in the village of North Luffenham.

900. OMNIA FIT ÆTAS. *Time does all things.*

On an octohedral dial in Mr. Evans' collection. See No. 295.

901. OMNIA HUMANA VANA. *All human affairs are but vanity.*

Locality unknown.

902. OMNIA SOMNIA. A.D. 1680. *All things are dreams.*

On the convent of St. Ursula, Valetta.

903. OMNIA SUNT HOMINUM PENDENTIA FILO. 1764. *All things that are of men are hanging on a thread.*

On the Lodge, Wentworth Woodhouse, Yorkshire.

904. OMNIA TEMPUS HABENT. *To everything there is a season.* (Eccl. iii. 1.)

On the church of St. Stefano, Belluno (see No. 312).

905. OMNIA VANA. *All is vanity.*

On the engraving of a dial in "Der unbetrüglliche Stunden Weiser," by J. H. Muller. 1702.

906. OMNIA VELUT UMBRA. *All is as a shadow.*

At Aups (Var).

907. OMNIBUS BREVIS ULTIMA MULTIS. *This hour is short for all, their last for many.*

At Castanel (Tarn).

908. OMNIBUS EXEMPLUM ET REGULA. *A pattern and a rule to all.*

On the church of St. Joseph (which formerly belonged to the Jesuits), at Montauban (Tarn et Garonne).

909. OMNIBUS EXORITUR. *For all men he rises.*

Place unknown.

910. OMNIBUS HORA VELUT ULTIMA JUDICETUR. *Let the hour be judged for all men as though it were the last.*

Locality unknown.

911. OMNIBUS HORIS ORA. *Pray at all hours.*

In front of the Presbytère at Larroque (Ariège).

912. OMNIBUS INCERTA. *No man knoweth it.*

At Voreppe (Isère).

913. OMNIBUS LUCET. *The (sun) shines for all.*

On the tower of Long Sutton Church, Lincolnshire.

914. OMNIS SPIRITUS LAUDET DOMINUM. *Let everything that hath breath praise the Lord* (Psalm cl. 6).

Formerly at Great Smeaton, Yorkshire (see No. 647).

915. ON THIS MOMENT HANGS ETERNITY.

Formerly on the church tower of Alfrick, Worcestershire (compare No. 172).

916. ONCE AT A POTENT LEADER'S VOICE I STAY'D,
ONCE I WENT BACK WHEN A GOOD MONARCH PRAY'D;
MORTALS, HOWE'ER WE GRIEVE, HOWE'ER DEPLORE,
THE FLYING SHADOW WILL RETURN NO MORE.

Taken from Cyrus Redding's "Fifty Years' Personal Recollections."

917. ONLY AS I ABIDE IN THE LIGHT OF HEAVEN
DO I FULFIL THE WILL OF MY MAKER. 1895.

On a glass window dial at Charlesfield, Midlothian, placed there by H. B. McCall, February, 1895.

918. OPPOSTO DI ME,
PENSI DI TE.

Think of thyself instead of me.

At the Château of the Count Pinsuti, in Piedmont.

919. OPTIMA FORTE TIBI. *Perchance thy happiest hour.*
At Barraux (Isère).

920. ORA EST HORA. 1858. *Pray, 'tis the time.*
On the curé's house at St. Quentin (Isère).

921. ORA ET LABORA. *Pray and work.*

On the church at Northallerton, Yorks.; and at West Wickham House, Surrey. Also with other mottoes on a cross dial at the House of Mercy, Horbury, near Wakefield (see Nos. 278, 1629).

922. ORA NE TE FALLAT HORA. 1760. *Pray that the hour take thee not unawares.*

At Auberives (Isère); on the church at Cavaillon (Vaucluse); on a house at Plampinet (Hautes Alpes); and at Le Puy St. André, 1868. The last two dials were designed by Zarbula.

923. 1870. Respublica.
ORA NE TE FALLAT HORA LABENS VELVT VNDA VELOX SICUT AVRA.
M. Mondru, Curé.

Pray that the hour, gliding like water, swift as the wind, take thee not unawares.

On the Presbytère, La Vachette (Hautes Alpes). The dial is surmounted by a bird, in Zarbula's style.

924. ORA NE TE RAPIAT HORA. *Pray that thou fallest not a prey to the hour.*

On the tower of a large modern church in a village of the Val Sesia, near Varallo. Also on two of Zarbula's dials, one at Château Queyras,

dated 1848, the other on the church at Molines, Queyras, dated 1849. The same motto as ORA UT TE RAPIAT HORA is on the Hôtel de Ville, Anêt (Eure et Loire). ORA NE TE PROBET HORA, *Pray that this hour may not be thy hour of trial*, is on the church at Tèche; at Les Avenièrès; and La Rivière (Isère).

925. ORA NE TE ULTIMA FALLAT. *Pray lest the last hour take thee unawares.*

Formerly on the Convent des Minimes, Paris.

926. ORBEM IDONEO TOTVM IMPLEAT. *May he fill the whole world with the light which brightens it.*

On a book-shaped portable brass dial in the Musée Cluny, Paris.

927. ORBIS ET UMBRA. *A circle and a shadow.*

At Rome.

928. ORDINATIONE TUA PERSEVERAT DIES. *The day continues according to Thine ordinance.*

At the Salle d'Asile, Mende (Lozère).

929. ORDINATIONE TUA, REGE ET PROTEGE. *By thy ordainment rule and protect.*

On Visp Church, Switzerland. The motto is on the dial face, which also has the sun and a church painted on it. It is also on a house at Sion, Canton Valais.

930. ORIENS EX ALTO VISITAVIT NOS:
MEMOR ESTO OCCASUS TUI.

*The dayspring from on high hath visited us (St. Luke, i. 78).
Be thou mindful of thine own setting.*

The first line is on the east face, the second on the west face of a dial at Round House Farm, Haverfield, Gloucestershire. VISITAVIT NOS ORIENS EX ALTO is written on an illustration of an east dial in a French MS. on dials in Mr. L. Evans' possession, apparently written at Nancy in the first half of the eighteenth century.

931. ORIENS NOMEN EJUS. *Arising in his name.*

Formerly above the door of the Maison des Jésuites, Rue St. Jacques, Paris.

932. ORIENS SOL ADORNATUR.
George Bowlby, Ackworth; 1810.

The rising sun is equipped (for his journey).

On one of four dials which surround the pedestal of a globe dial in Mr. A. Egginton's kitchen garden, South Ella, near Hull. The

globe shows when the sun is on the meridian. Each of the four dials has a motto. See Nos. 142, 431, 1048.

933. ORIENTE ORIENS
CADENTE CADENS.

Rising as the sun rises, setting as he sets.

Maison Henrard d'Armieux, St. Gervais.

934. ORIMUR, MORIMUR. *We rise up, we die.*

With No. 1141. On a gable at Packwood House, Warwickshire. We are told that when this motto was last painted, the artist unfortunately put *mortimur* for "morimur." We cannot doubt that this is a true account of the position, for a sketch of the square-shaped dial, immediately under a small window in the angle of the gable, is before us, with the legend below. An obliging communication, however, from Bishop Hobhouse, informs us that the same words are also on a clock-face at Packwood; the word "orimur" being over an increasing series of figures, and the word "morimur" over a decreasing series.

935. ORIOR ORIENTE SOLE, SOLE CADENTE CADO. 1860. *As the sun rises, I arise, as he sets, I fall.*

On a dial by Zarbula at Abriès; and also at Roquebrune (Var).

936. OSPITA, E PEREGRINA È NOSTRA VITA,
AD ORA AD ORA MANCA, E FA PARTITA.
*We are as guests and pilgrims here below,
A little while we stay, and then we go.*

Given in "Notizie Gnomoniche."

937. OUBLIDES PAS JOUVENT QUE PASSI COUMO LOU VENT (N'OUBLIE PAS, JEUNE HOMME, QUI JE PASSE COMME LE VENT). *Forget not, O young man, that I go by like the wind.*

On a tower at Peirole.

938. OUR DAYS DECLINE LIKE THE SHADOW.

On the Grammar School, Northampton.

939. OUR DAYS ON EARTH ARE AS A SHADOW, AND THERE IS NONE ABIDING (1 Chron. xx. 15). 1860.

On a house at Lyme, Dorsetshire; on a church at Charlton Kings, Somerset; and on a buttress of Tutbury Church, Staffordshire. The first part of the text is in Overton Churchyard, Flintshire (see No. 108); on Otterford Church, Somerset, with No. 1337, and date "1826, J. Blackmore fecit"; also on Clayworth Church, Notts; the church at Poulton-le-Fylde, Lancashire; and on Lilleshall Church, Salop, the dial having been restored by Mr. C. C. Walker, F.R.S.A., and on a modern vertical dial at Brighton, with No. 1528.

940. OUR DAYS ON EARTH ARE AS A SHADOW,
SO SOON PASSETH IT AWAY, AND WE ARE GONE.

In the gardens fronting the house at Gale Syke, Westwater, is a horizontal dial thus inscribed. It was erected about 1852-3, and presented to the then owner of the place, Stansfield Rawson, Esq., by one of his daughters. It was said to have been designed by Mr. Rawson's son-in-law, the Rev. Dr. Worsley, late master of Downing College, Cambridge.

941. OUR DAYS PASS LIKE A SHADOW.

On the old church at Whitby, Yorkshire, cut in the stone and dated 1757.

942. OUR LIFE'S A FLYING SHADOW, GOD'S THE POLE:
THE INDEX POINTING AT HIM IS OUR SOUL:
DEATH'S THE HORIZON WHEN OUR SUN IS SET,
WHICH WILL, THROUGH CHRIST, A RESURRECTION GET.

Formerly on Milton Church, Berks; and on Ebberston Church, near Scarborough, with No. 732, and "F. Thorpe delineavit 1843"; The same motto, with Nos. 289, 1490, was on Glasgow Cathedral, but has now disappeared. Leadbetter (1756) mentions this as "on the High Church wall."

943. OUR TIME'S AT HAND.

On the church porch, Minster, Sheppey.

944. 'ΟΥΡΑΝΟΝ . 'Α . ΧΩΡΥΣΑ . ΣΟΦΑ . ΛΙΘΟΣ .
'Α . ΔΙΑ . ΤΥΤΘΟΥ . ΓΝΩΜΟΝΟΣ .
ΑΕΛΥΩ . ΠΑΝΤΙ . ΜΕΡΙΣΔΟΜΕΝΑ .

*Exaequat caelum sapiens Lapis indice parvo,
Mensus quod solis flamma diurnat iter.*

*"Behold, epitomised in this small space,
The swift revolving earth's diurnal wheel."*

A writer in the "Gentleman's Magazine," February, 1792, p. 121, said: "I found yesterday, in the 'Anthologia,' a curious philosophical bagatelle, an inscription for a dial containing twelve words, and, as it seems, intentionally limited to that number. It is well known to your Grecian readers that λίθος, in the feminine, denotes a gem. This was probably therefore a very small dial."

The Latin and English versions of the inscription were also given in the "Gentleman's Magazine." Both they and the Greek lines have been exactly copied. We are not responsible for the spelling. Probably ΑΕΛΥΩ should be ΑΕΛΙΟΥ.

945. ΠΑΝΤΑ 'ΑΝΑΦΕΡΕΙ ΧΡΟΝΟΣ.
Time brings all things back.

On an octohedral dial in Mr. L. Evans' collection, see No. 295.

946.

ΠΑΝΤΑ ΣΚΙΑ.

EDMOND BURTON.

נֶצַל יְדִינִי עַלִי אֶדֶן.

MAUD BURTON, 1607.

HORA FUGIT SIC TV.

*All things are but shadow, Our days on earth (are) as a shadow.
Time passes, so dost thou.*

On the copper plate of a dial which has stood in the Rectory Garden at Sutton Montis, Somerset, ever since it was put up in 1607. Edmond Burton was rector at the time of its erection.

947.

ΠΑΝΤΑ ΧΡΟΝΟΣ ΦΕΡΕΙ.

Time brings everything.

In the village of Larche (Basses Alpes).

948.

PAR LE SOLEIL JE DONNE L'HEURE,
ET EN DIEU TU TROUVES TON ESPOIR.

*The sun reveals the hour by me,
And God it is gives hope to thee.*

At Abriès (Hautes Alpes); and at Le Pinet.

949. PARCE TEMPORI SEQUERE DEUM. *Save thy time and follow God.*

On an engraving of a dial in "Gnomonice de Solariis," 1572, by Bartholomew Scultetus (B. Schultz).

950. PARTA TUERI. *Protect what thou hast gained.*

Seen on an octagonal silver pocket-dial.

951.

PARTE L'OMBRA COL SOL, COL SOL RITORNA :
MA L'UOM QUAL OMBRA FUGGE, E PIU NON TORNA.

*The shadow departs with the sun, with the sun returns :
But man as the shadow flees, and returns no more.*

At Sordevole, in Piedmont.

952. PARTICULA BONI DONI NON TE PRAETEREAT. *Let not the part of a good desire overpass thee* (Ecclus. xiv. 14).

The text is thus translated in the Bible, but as used for a dial motto it would seem rather to mean : *Let no atom of the good gift pass thee by*, that is, the gift of *Time*. The motto is on the Hôtel Boucicault, St. François, Tours. There are several dials showing the astronomical, the Babylonian, and the Italian hours.

953.

PASSAGER QUE QUE TU SOIT,
ARRÊTE TOI ICI ET BOIT (*sic*), 1850.

Wayfarer, whoever thou mayest be, stop here and drink.

On an inn at Lans (Isère).

954. PASSANT SI TU VEUX JOUIR DES DOUCEURS DE LA VIE,
RÉPOSE TOI À L'OMBRE DE CES FORÊTS.

22 Juillet, 1832.

*Passer by, if you wish to enjoy the sweetness of life,
Rest here under the shadow of these woods.*

At Sylve Bénite (Isère).

955. PACE . ET . NE . TA . RETE . PAR (*sic*).

L'an 2 de la République (1794).

(PASSE ET NE T'ARRÊTE PAS.)

Pass and stay not.

At the Hameau de Palliardin, Curtin (Isère).

956. PASSE, PASSANT. *Passer by, pass on.*

At the Hameau de la Terrasse, St. Quentin (Isère).

957. PASSO NE FIA CH'IO TORNI,
IL VIVA TUO MISURA
DALL'OPRE E NON DAI GIORNI. 1846.

*Once past I cannot then retrace my ways,
Measure thy life by works done, not by days.*

At Acqui, North Italy.

958. PANSE A L'ETERNITE,
LEURE VA MARQUÉ (*sic*) 1827.

Think on Eternity, the hour is about to strike.

At Les Queyrelles Hautes. The first line only is at La Tour d'en Trollet (Hautes Alpes).

959. PANSONS A DIEU (*sic*). *Let us think upon God.*

At Sillans (Isère).

960. PENSE A TON HEURE DERNIERE. *Think on thy last hour.*

On the façade of a convent at Carmaux (Tarn). In slightly different forms the motto was formerly in the Rue St. Thomas du Louvre, Paris; and on a cabaret at Passy.

961. PENSA, UN DIO, UN ANIMA, UN ETERNITÀ.
RIPENSA, UN ORA IL TUTTO DECIDERÀ.

*Think,—One God, one soul, one eternity.
Think again—one hour will decide all.*

At Saure, near Tione, in the Trentino.

962. PER DIEM SOL NON URET TE NEQUE LUNA PER NOCTEM. *The sun shall not burn thee by day neither the moon by night (Ps. cxxi. 6).*

Formerly at Lisieux, on the College.

963. PER I FELICI ED I TRISTI SEGNO UGUALMENTE LE ORE. *I mark the hours alike for the happy and the sad.*

On a farmhouse in the neighbourhood of Lari, Tuscany ; recorded by Mrs. Janet Ross in "Macmillan's Magazine."

964. PER L'ORECCHIA NON SON, MA SOL PER L'OCCHIO,
PERO DIPINTA SON SENZA BATTOCCHIO.

*Not for the ear, but for the eye, am I,
Thus without sign of tongue am I.*

Given in "Notizie Gnomoniche."

965. PER ME QUI L'ARTE IN
SUO TRIONFO ADDUCE
IL TEMPO, IL MOTO, IL
SOL, L'OMBRA, LA LUCE.

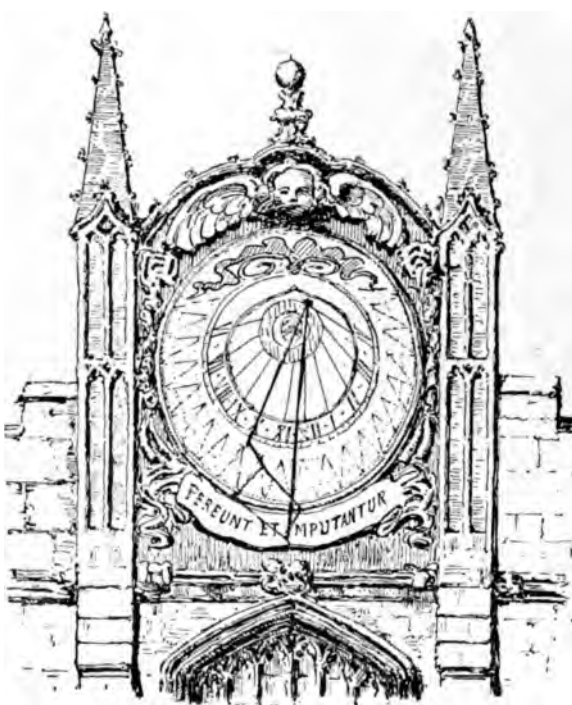
*Art in its triumph brings
hither for my use
Time, motion, the sun,
shadow and light.*

On an old building near Montepulciano, N. Italy.

966. PEREUNT ET IMPUTANTUR.
They pass by and are reckoned.

This is one of the Temple dial mottoes. When first copied by Mrs. Gatty, the dial, a vertical one in Temple Lane, bore the date 1818, but at each repainting the date was altered. The present dial is not quite in the same position as the former one, owing to the rebuilding of the chambers in

the Lane. The motto was, until late years, on the south porch of Gloucester Cathedral, but the dial was removed at the recent restoration, and the older canopy work replaced. At one time the inscription might have been read on Rotherham Church ; at Beadnell, and at Bamburgh, Northumberland (dated 1828), and probably made by William Armstrong, schoolmaster, but the restoration of these churches has been fatal to the dials. There was a dial on St. Buryan's Church, Cornwall, bearing this motto and the date 1747, but it was removed in 1874, and only restored to its place in 1899. St. Margaret's Church, Ipswich, once had a vertical dial over the porch with this motto, but in 1867 it was removed, and after remaining for some time in a stonemason's yard, was sold by auction ; it was



ALL SOULS, OXFORD.

in 1889 in a meat saleman's yard at Ipswich, and had been repainted and gilt. The fine dial placed by Sir Christopher Wren on the college of which he was a fellow, All Souls, Oxford, bears this motto. The dial was formerly on the chapel, but was some years ago moved to the wall of the library, where it is placed above one of the windows on a south wall. The motto may further be read at Hargrave Rectory, Northants; at Lympne, Kent; and on Lincoln Cathedral with No. 128; on the old Moot Hall at Aldeburgh, with No. 443; on Kildwick Church in Craven, Yorkshire; and Great Barton Church porch, Suffolk; in the churchyards of Garstang, Lancashire, with date 1757; of Aldington, Kent, dated 1799; on a wooden shaft at Brympton, near Yeovil, with No. 1499; in the rectory garden at Micheldean, with No. 354; and in the vicarage garden at Bishop Stortford, Herts; on the cross-dial at Elleslie, Chichester (see No. 104); and at Lavendon Grange, near Olney, dated 1626, over the principal entrance. Sir Isaac Newton was a frequent visitor at Lavendon, and no doubt often consulted this time-teller. It is also on a curious clock at Exeter Cathedral.

The same motto is found on several continental dials, as on the Municipio at Palermo; and on the church of San Crocifisso, Pieve di Cadore (see Nos. 442, 1504, 1548); on that of Mens (Isère); at Mont Valezan sur Bellentre, Savoy; at Nus, Val d'Aosta; in the garden of the hospital of St. Jacques, Besançon (see No. 75); and formerly was on the college at Lisieux.

The words of the motto are taken from an epigram by Martial, v. 20, 11, the four last lines of which are as follows:

"Nunc vivit sibi neuter, heu! bonosque
Soles effugere atque abire sentit,
Qui nobis *pereunt et imputantur*;
Quisquam vivere cum sciat, moratur?"

Cowley translates these:

Now to himself, alas! does neither live
But sees good suns of which we are to give
A strict account, set, and doth march away:
Knows a man how to live, and does he stay?"

The sentiment is remarkable from a heathen writer, and somewhat more Christian, though often not more true, than that given to a lady who was being lionized at Oxford, and asked the meaning of the words: "They perish," said her waggish companion, "and are not thought of."

PEREUNT ET IMPUTANTUR is also in the garden of Bremhill Rectory, Wilts, on a dial which stands on a twisted column in the midst of flower beds. It was put up by the Rev. W. L. Bowles, who also inscribed the following lines upon a hermitage, now destroyed, which stood near it:

"To mark life's few but fleeting hours,
I placed the dial 'midst the flowers

Which one by one came forth and died
 Still withering by its ancient side.
 Mortal ! let the sight impart
 Its pensive moral to thy heart !"

967. PERGE SECURUS, MONSTRO VIAM. *Proceed trustfully, I show the way.*

On an ivory portarium, now in the possession of Charles T. Gatty. The motto refers to the compass which is included in the portarium. It was made by Hans Troschel, and was bought at Nuremberg. The motto is also on a portarium in the Musée Cluny, Paris (see No. 404 and comp. No. 748).

968. PERICLITAMUR OMNI HORA. *We stand in jeopardy every hour* (1 Cor. xv. 30).

At Aime, Savoy ; and on the wall of the old Capuchin convent at Savona.

969. PETITO QUOD JUSTUM. *Seek what is just.*

In Jamaica there is an old Spanish sun-dial placed on the parapet of the platform, before the main entrance to Great Pond House, parish of St. Anne, just in front of a pomegranate tree, which springs from the rock opposite the dial. The dial is inscribed as above.

970. PEUT-ÊTRE A L'HEURE QUE TV CONTE
 FAVDRA MOVRIR ET RENDRE CONTE (*sic*).

*Perhaps at the hour which thou dost count
 Thou wilt have to die and give account.*

On the church at Ornon (Isère).

971. PEUT-ÊTRE LA DERNIÈRE. *Perhaps the last.*

At the Maison Avignon, Mirepoix (Ariège).

972. PHOEBUS ABSENTE NIL SUM. *Without Phæbus I am nothing.*

At Gardes (Vaucluse).

973. PHOEBUS IN HOC SPERA (SPHERA) DAT NASCERE TEMPORIS HORIS.
On this sphere Phæbus permits the hours of time to be born.

On a dial at the Château de l'Isle d'Aval, near Dinan, the residence of M. Gaultier du Mottray. The dial is on a white marble slab and was brought from the Château du Vœu Meloisel, which belonged in the fifteenth and sixteenth centuries to the family of Desnos : on the upper part there is a shield quartered with the arms and mottoes of the families of Desnos and Matignon, and surrounded by the legend, "En tout par honneur."

974. PIÙ DELL' OMBRA È FUGACE
QUESTA VITA MORTAL CHE TANTO PIACE.
*Than fleeting shade more fugitive
This life we cling to while we live.*

No locality assigned.

975. PLURES LABORI, DULCIBUS QUIDAM OTIIS. *Most to work, some to pleasant ease.*

M. de Fieubet, Counsellor of State to Louis XIV., set up many dials, and the one which he erected on his house in Paris bore the above motto. It was supported by figures of Labour and Rest; for the motto on his country house see No. 239. The above was also on the Maison des Jésuites, Rue St. Jacques, Paris; and is in the garden of the Hospital of St. Jacques, Besançon. See No. 75.

976. PORTATRICE A VOI DI BENE,
L'ORE SIAM DE' DÌ SERENI,
SI ANNOTTA, O TUONA, O PIOVE
NOI FUGGIAM IN GREMBO A GIOVE.
*Bearers of wealth to you, the sons of men,
Are we, the sunlight hours of days serene;
If night, or rain, or thunder blur the sky,
Into our Father's bosom back we fly.*

So the late Dean Alford translated the motto which he found at Vignale, in Piedmont.

977. POST EST OCCASIO CALVA. *Opportunity is bald behind.*

"Take time by the forelock," says the adage. The whole line is, "Fronte capillatâ, post est occasio calva," as already stated (see No. 322). The above motto is on the church tower at Yaxley, Huntingdonshire. The dial bears the date of its renewal in 1818, but the motto is now almost obliterated. It is also on Horton Church, Dorset.

"The moment that is past returns no more;
The hour mis-spent can never be recalled!
Old Chronos has but one poor lock before,
His head, behind, is altogether bald.
Take that from me."

THOMAS ELWOOD.

978. POST FATUM SURGO. 1814. *After death I arise.*

On the Capuchin Convent, Nice. The arms of the seraphic Order are figured on it.

979. POST TENEBRAS LUX. *After darkness light.*

A modern dial, near the corner of a house with a high garden wall at Varenna, on the lake of Como, bore this inscription in 1866. The Rev. Samuel Clark, writing in 1656 ("Mirror for Saints and Sinners")

observes that these words were written upon "a marble table in the town house of Geneva. Before Master Calvin opened their eyes by his ministry, their motto was *Post tenebras spero lucem*. Since they altered it to *Post tenebras lux*."

980. POST TENEBRAS SPERO LUCEM. *After darkness I hope for light.*

At Jordan Gate, Macclesfield (see No. 807). On a vertical dial in the courtyard of the Certosa, near Alatri; with others in the Passage du Petit St. Antoine, Paris (see No. 860); and at Ridley Hall (see No. 45).

981. POSUI DEUM ADJUTOREM MEUM. *I have placed God as my helper.*

One of the mottoes on the dial pillar at Corpus Christi College, Oxford.

982. POURQUOI LA CHERCHER SI C'EST POUR LA PERDRE? 1828.
Wherefore look for it if it is only to be lost?

At Château Queyras (Hautes Alpes), with other mottoes.

983. POURQUOI SUR CE CADRAN SOLAIRE
NE VOIT-ON POINT L'OMBRE ORDINAIRE?
C'EST QUE CONSACRANT DANS CE LIEU
TOUT NOTRE TEMPS À LOUER DIEU.
IL FAUT POUR LE MARQUER LA PLUS NOBLE MANIÈRE
C'EST D'EMPRUNTER AU CIEL UN RAYON DE LUMIÈRE.

Why is not the usual shadow visible on this sun-dial? It is because in this place all our time is given to praising God. We desire to mark it in the highest way, and that is by borrowing a ray of light from Heaven.

Inscribed on a dial within a Franciscan convent. The hour is shown by a ray of light. This kind of dial is called in France *Cadran à la capucine*, "La Cloche."

984. PRAECIPITES VALIDIS TARDAE LANGUENTIBUS HORAE. *Swift are the hours to the healthy, slow to the sick.*

In a chemist's shop, Rue Bourg l'Abbé, Paris.

985. PRAESENS TIBI ULTIMA PLURIBUS. *The present hour is life to thee, and death to many others.*

At Caussade (Tarn et Garonne).

986. PRÆSTANT ÆTERNA CADUCIS. *The things eternal excel the transient.*

Noted in North Italy.

987. PRÆTEREUNT. IMPUTANTUR.
They pass by. They are reckoned.

There are two sun-dials at Farnham Castle, on the walls of the

entrance tower. They had formerly the inscription, "Eheu fugaces, labuntur anni," but have now the more befitting words, "Prætereunt" on the one, and "Imputantur" on the other.

988. PRÆTERIT ÆTAS NEC REMORANTI
LAPSA RECEDUNT SÆCULA CURSU,
UT FUGIT ÆTAS UTQUE CITATUS
TURBINIS INSTAR VOLVITUR ANNUS,
SIC QUOQUE NOSTRA PRÆCIPITANTER
VITA RECEDIT OCIOR UNDIS.

Time passes, and with no lingering passage the ages vanish. As time flies, and as the year rolls on, hurried as the whirlwind, so suddenly doth our life fail, swifter than the waves.

On the back of a curious old sun-dial formerly at Park Hill, near Oswestry. On the sides and base were three other mottoes, Nos. 1329, 1334, 1351, and date 1578. The "Archæological Journal" (xiii. 417) gives a figure of the dial, and says, "It measures about four feet in height, exclusive of the two footing courses. There has evidently been another inscription which is now defaced. There are seven dials on this curious example. At the time when the dial was erected the family of Ap Howell or Powell owned Park Hill, and it remained in their hands till 1717." This was written in 1856. Unfortunately the dial no longer exists; an attempt was made to move it, and it fell to pieces.

989. PRÆTERIT FIGURA HUIUS MUNDI. 1788. *The fashion of this world passeth away.* (1 Cor. vii. 31.)

In the cloister of the old Abbey of Ronceray, Angers; also on a house at St. Chaffrey (Isère).

990. PRÆTERITUM NIHIL PRÆSENS INSTABILE, FUTURUM INCERTUM.

The past is nothing, the present unstable, the future uncertain.

On a marble pedestal dial, which formerly stood in a pleasure ground at Knole Park, Kent; and is now in the garden of a neighbouring farmhouse. Knole was the property of the Duke of Dorset, whose co-heiresses were his two sisters, the elder of whom married the Earl of Plymouth, and inherited the estate. She afterwards became the Countess Amherst. In default of issue, the estate passed to the younger sister, the wife of Earl Delawarr, who was created Baroness Buckhurst in her own right, with remainder to her younger son, who is now in possession of Knole.

The motto is on a brass horizontal and analematic dial, $9\frac{1}{4}$ in. $\times$ $5\frac{3}{4}$ in., made by Thomas Tuttell, in Mr. Evans' collection. Also with *ignotum* instead of *incertum*, on a silver dial by the same maker, now in the museum at Copenhagen.

991. PRAY, FOR THE HOUR PASSETH AWAY.

Recorded in the "Leeds Monthly," as being inscribed on the front of a house at Monk Fryston, Yorkshire.

992. PRENDS GARDE À LA DERNIÈRE. *Be mindful of the last hour.*

On the church of Verdélais (Gironde). Before the Revolution the church was served by the order of the Celestines, and the dial belongs to their time. The motto is also on the Château de Fougères (Basses Alpes). See No. 1062.

993. PRENDS GARDE À TOI, TON HEURE S'AVANCE. *Beware—thy hour approaches.*

Formerly in the Rue du Faubourg St. Antoine, Paris.

994. PRENEZ GARDE, MORTELS, VOUS PASSEZ COMME L'ONDE
AINSI S'ÉVANOUIT LA GLOIRE DE CE MONDE.

Sixte Bec et neveux, 1843.

*Beware, mortals—you flow by like a wave,
So vanisheth the glory of this world.*

Via San Michele, Bousson, Prov. of Turin.

995. PREPARE TO MEET THY GOD.

With No. 1345 and GLORIA DEI (*The glory of God*), and "Lat. 53 deg. 26 min.," on the porch dial of Bradfield Church, in the parish of Ecclesfield, Yorkshire. The church is a fine one of fifteenth century date, and is nobly placed, overlooking the moors and the valley through which the flood, caused by the bursting of the Dale Dyke Reservoir, poured down into Sheffield in the night of March 11, 1864, when 250 persons were drowned. The church was well restored during the years 1871-1888, whilst the Rev. Reginald A. Gatty was rector.

996. PRIEZ DIEU À TOUTE HEURE. *Pray without ceasing.*

Is at Bozel, Savoy.

997. PRIMA FUT, PRÆSENS VOLAT, ULTIMA QUANDO SONABIT
HÆC LATET, IMPRUDENS ERGO, CAVETO TIBI.

*The first hour hath been, the present flies, the last soon shall sound :
this thou knowest not, therefore, unforeseeing one, let it be a warning to
thee.*

At Caudebec, on the church tower, where there is both a meridian dial and a clock. Perhaps the inscription has not survived the restoration of the church.

998. PRO CUNCTIS ORIOR. 1698. *I rise for all men.*

On the Asile des Aliénés de la Trinité, at Aix, in Provence. A similar motto, PRO OMNIBUS—*On behalf of all*, is at La Ciotat (Bouches du Rhône).

999. PRODIGIT VESTIGIA LUCIS. *It shows the tracks of the light.*

Given in "Notizie Gnomoniche."

1000. PROFITEZ DU TEMPS. R. 1868. *Make good use of your time.*

At Villefranche, near Nice.

1001. PROPERATE FUGIT. *Haste ye, it flies.*

On a dial, Quai St. Eustache, Paris, in 1787.

1002. PROPERAT HORA MORTIS: ULTIMA CUIVIS EXPECTANDA DIES. *The hour of death hastens on: the last day is to be looked for by each one.*

With Nos. 248, 693, 1360, and "Johannes Watkins, 1695," on a dial in the vicarage garden, Ripley, Surrey. The dial formerly stood in a garden at East Harptree, belonging to Lieut. William Hooper, R.N., from which it was removed on his death in 1861; it was placed in the garden at Ripley by his son, the Rev. H. Hooper, in 1870.

1003. PROPINQUANT OMNES CAVE UNAM. *All hours are approaching, beware of one.*

No locality assigned.

1004. PROVIDUS USQUE DEUS. *God ever foreseeeth.*

Formerly on the Convent of the Théatins, Paris. The building is now a private house. See Nos. 392, 1026, 1120.

1005. PUDOR SIT VT DILVCVLVM. A.D. M.DCCIL. ÆQVI NOCTIALIS. *Let shame be (rosy) as the dawn.*

The dial which bears this inscription is on a horizontal slab of white marble in the cloisters of the Certosa, Val d'Ema, near Florence. It tells the hours from two to six p.m. to the few remaining inmates of

" . . . The huge battlemented convent block
Over the little forky flashing Greve
That takes the quick turn at the foot o' the hill
Just as one first sees Florence."

The Ring and the Book.

1006. PUISQUE LA MORT TE DOIT SURPRENDRE
A TOUTE HEURE IL FAUT ATTENDRE.

Be ever ready since death will overtake thee.

On a bronze slab bearing a variety of astronomical dials which is in the Musée Lorrain, Bar-le-Duc, and was formerly at a house at Ligny. There is another motto on it, see No. 235. The engraving of the elaborate designs was the work of a well-known Lorrainese artist, named Hanzelst, at the beginning of the seventeenth century.

1007. PULVERE, SOLE, ROTIS, TEMPUS METIMUR ET UNDA,
HEU SIC VITA FLUIT, PRAECIPITATUR, ABIT.
DOMINUS IN REFUGIUM ET LAPIS ISTE IN SIGNUM ERIT MIHI.

*With sand, with sun, with wheels, with water we measure the time :
alas, thus does life glide on, hurry by, and is gone.*

The Lord shall be my refuge, and this stone the sign thereof.

On a dial in the Musée Lapidaire at Beaune (Côtes d'Or). See No. 236.

1008. PULVIS ET UMBRA SUMUS. *We are dust and shadow.*

In Leyland, and in Euxton churchyards, Lancashire; also in Grappenhall churchyard, Cheshire, dated 1714; and formerly on the



LEYLAND CHURCHYARD.

keep of Carlisle Castle, see No. 169. The line is from Horace (Odes, iv. vii. 16). Hogarth inscribed it under a mural sun-dial in his picture of "Chairing the Member"; a skull and cross-bones ornament the gateposts below. The motto was once on the Château de Montmayeur, Savoy; and on a convent at Conflans. It is now in the market-place of the town of Sion, Canton Valais. The Rhone Valley is noted for the violent winds which spring up at noon during the summer months, raising great clouds of dust, and making the motto specially appropriate to the place.

1009. PUNCTUM TEMPORIS OMNIS VITA. *The whole of life is but a point of time.*

On an engraving of a dial in Franz Ritter's "Speculum Solis", 1652. Also on a cubiform limestone dial in the Nordiska Museet at Stockholm: the stone is damaged, and the continuation (if any) missing.

1010. PUÒ FALLARE LA CAMPANA IL FERRO,
MA RISPLENDE (IL) SOLE IO NON ERRO.

*The iron bell may wrongly tell,
I err not, if the sun shine well.*

At Comano, in the Trentino.

1011. QUA HORA NON PUTATIS FILIUS HOMINIS VENIET.

The Son of Man cometh at an hour when ye think not.—St. Luke, xii. 40.

On a portable universal dial of brass in the Museum at Trèves. The text has also been read at Mayenne.

QUA NON PUTATIS. *In the hour ye think not.* Was formerly in the Rue du Faubourg St. Martin, Paris.

1012. QUA REDIT NESCITIS HORAM. *Ye know not the hour in which He returns.*

The western dial thus inscribed stood formerly on an old gable in Lincoln's Inn. It was renewed in 1794, when the great William Pitt was treasurer, and bears this date and the initials W. P. When the old buildings were taken down, the dial was removed to the Stone Buildings, and placed near the windows of Mr. Pitt's chambers. The same motto is at the Chantry, Newark (see No. 1176); and on Threckingham Church, Lincolnshire.

On a stone pillar at Scartho, near Grimsby, is a brass dial engraved
QUA REDIT HORAM NESCITIS.

1013. QUAE EST ENIM VITA VESTRA? VAPOR ENIM EST AD EXIGUUM TEMPUS APPARENS.

For what is your life? It is even a vapour that appeareth for a little time.—St. James, iv. 14.

Ambrose Crowley, anno 1713.

On the outer gable of an old building in Grace's paper works, Swalwell, co. Durham. These with the steel works of Ridley and Co. formed the famous works of Ambrose Crowley at the end of the seventeenth and beginning of the eighteenth centuries. "He was, I believe," writes Mr. R. Blair, "the first iron worker on Tyneside, or rather on Derwentside, the Derwent being a tributary of the Tyne. His workmen were a very boisterous set, and to this day parents speak of their children when very rough and noisy, as being like 'Crowley's crew.'"

1014. QUAE LENTA ACCEDIT QUAM VELOX PRÆTERIT HORA. Simpson A.D. 1820.

The hour that comes slowly, how swiftly doth it pass.

On a dial at Wigton Hall, Cumberland. A writer in "Notes and

Queries" (5th Ser. v. 235) says, "The following Latin motto is by Cowper; the translation said to be by Hayley.

Quae lenta accedit, quam velox praeterit hora!
Ut capias, patiens este, sed esto vigil!

*Slow comes the hour, its passing speed how great!
Waiting to seize it, vigilantly wait.*

1015. QUAE TUA SIT NESCI, HORAM DUM FUGIT OCCUPA.

Thine hour thou knowest not, seize the hour while it flies.

At Rayon (Basses Alpes).

1016. QUAE LIBET EST INDEX FUNERIS HORA TUI. *Any hour is the signal for thy death.*

On an ivory portarium in the National Museum at Munich, with No. 606. Also on a dial in Mr. Evans' collection. See No. 37.

1017. QUAE RE BONUM. *Seek that which is good.*

At Oyeu (Isère).

1018. QUAEVIS HORA FORTASSE POSTREMA. *Any hour is perchance the last.*

On the Franciscan convent of Mesma, Italy.

1019. QUAEVIS HORA MORTIS INDICINA.

Any hour may be the summons of death.

QUICQUID SUB SOLE NATUM LUNARE EST.

CRESCUNT OMNIA DECRESCUNT.

TRANSEUNT UT REVERTANTUR.

Everything under the sun is subject to the moon.

All things ebb and flow.

They pass away to appear again.

On a brass and silver nocturnal dial in Mr. Evans' collection. It is of south German make, and the face is decorated with the engraving of a full moon. The last three lines of the motto are below the moon, and in context with the lunar tables.

1020. QUALIS UMBRA DIES NOSTRI. *Our days are as a shadow.*

On a château belonging to Baron Perrier de la Batie, Savoy.

1021. QUALIS VITA FINIS ITA. *As the life, so the end.*

At Ballafreer Farm, Isle of Man, with Nos. 57, 90. Formerly on the church at Great Smeaton, Yorkshire, with "W. Deacon, 1809", but the dial was removed in 1872. See No. 647.

1022. QUAM CITO JUCUNDI PRAETERIERE DIES. *How quickly the pleasant days have passed away.*

On a cruciform dial erected by the Rev. W. L. Bowles in the

grounds of his canonical residence in the Close, Salisbury, 1829. It is no longer there.

1023. QUAND JE NE VOIS PAS CLAIR, JE ME TAIS. *When I cannot see, I am silent.*

From Boileau.

1024. QUANDO APPARES EGO PROPERO. *When thou appearest I hasten on.*
On the church of St. Paulen (Haute Loire).

1025. QUANDO DI NUBI AL SOL SGOMBRA È LA VIA,
ALLO STANCO VISITANTE ADOTT' È L' ORA
CHE LO CHIAMA AL RISTORO E ALL' ALLEGRIA.
*When the path of the sun is free from clouds,
To the weary traveller is brought round the hour
Which calls him to refreshment and mirth.*

Beyond Varenna the road to Colico winds along the shores of the Lake of Como, and passes a little roadside *osteria*, over the door of which is a rough sun-dial with the above motto. It serves as a sign to the inn, as well as to indicate the time.

1026. QUAS PERDITIS HORAS QUÆRITIS. *Ye seek the hours ye waste.*

Formerly in the court of the Convent des Théatins, Paris.

1027. QUAS UMBRA SIGNET VIRTUS. *Let virtue mark the hour the shadow tells.*

On the Hôtel de Ville, Beaufort, Savoy, with No. 1186.

1028. QUASI PHOENIX EX CINERE MEO RESURGAM. *Like the Phoenix I shall arise from mine ashes.*

At Chatillon, Val d'Aosta, with No. 43.

1029. QU'AUO SIO TAR, OU QU'AQUE SI D'ABOURO
ÈL CHAU MOURI, PER SEGUI, A QU'AU QU'HORO.
FOZE ME DONC MOURI, SEIGNOUR, DIN LOU MOUMEN
S'YOU DÈVE MAL UZA DEL RESTO DE MON TEM.
[QUE CE SOIT TARD, OU QUE CE SOIT TOUT-À-L'HEURE
IL FAUT MOURIR POUR SÛR, À QUELQUE HEURE.
FAIS MOI DONC MOURIR, SEIGNEUR, EN CE MOMENT,
SI JE DOIS MAL USER DU RESTE DE MON TEMPS.]
*Be it late, or be it early,
The hour of death must come.
Lord, make me to die at this moment,
Lest I should misuse the rest of my days.*

On a house opposite the gate of the Abbey of Maymac (Corrèze).
("L'Intermédiaire," vol. xv.)

1030. QUE LA VERTU SOIT DE TOUTE HEURE. *May virtue be ever present.*

At Beaufort, Savoy.

1031. QUE T'IMPORTE QUELLE HEURE IL EST OU QU'IL N'EST PAS ?
ENTRE, TU TROUVERAS TOUJOURS L'HEURE DU REPAS.

*What matters it what the hour is or is not ?
Enter, and thou wilt always find a meal.*

Formerly over the door of a cabaret at Barde, near Montmorency.

1032. QUE TOUTES LES HEURES DU JOUR VOUS TROUVENT
TRAVAILLANT POUR L'ÉTERNITÉ
1849. Z. G. F.

Let every hour of the day find you working for eternity.

At Abriès (Hautes Alpes).

1033. QUELLE HEURE EST-IL ?
PEUT-ÊTRE LA MIENNE.
1853. Andeyer.

*What is the hour ?
Perchance my (last).*

At Les Orres (Hautes Alpes). "Andeyer" was the name of a former Maire.

1034. QUI BENE VIVIT, BENE MORITUR. *Who liveth well, dieth well.*
At the Maison-du-Roi, Queyras (Hautes Alpes), with No. 552.

1035. QUI CUPIS HORARVM SERIEM COGNOSSE DIEI
HOC SPECTA JUSTVM, CANDIDE LECTOR, OPVS ;
SIVE VELIS CERTAM IN MEDIO COGNOSCERE LVCIS
HORAM TE LIQVIDO LINEA RUBRA DOCET ;
SIVE HORAS QVAERIS DEPRENDERE SOLIS AB ORTU,
DISCRETAS ATRIS DUCTIBVS ESSE VIDES.
SINT LICET AEQUALES HORAE CVIVSQVE DIEI
SED SPATIO RELIQVAS DISSIMVLI ADSPICIUNT ;
ILLVD SI NESCI DISCRIMEN, HYPERBOLA MONSTRAT
QVAM TIBI APOLLONII CONICA CLARA DAVNT.

SEBAST : SPERANTIUS FACIEBAT ANNO MDIII
VIVERE DISCE. COGITA MORI.

APORD JOHANNE MAXIMILIANI
STABIO AUSTRIACO () US MAI ()

RENOVATUM A MDLXXIII. ET MDCLIII
G V. MDCXCI ARCHICÆ.

On a large dial painted on the wall above the south door of

St. Lorenz Kirche at Nuremberg. The translation of this inscription has been kindly undertaken by Mr. Evans, and his extensive knowledge of practical dialling and ancient instruments has thrown light on allusions which completely baffled those who were classical scholars only.

"Fair Reader, who dost desire to know the series of the hours of the day (i.e., the number of hours in the day, or length of daylight), look on this accurate work: or, if thou shouldest wish to learn a certain hour in the middle of the daylight, a red line teaches thee the hour with certainty (liquido). Or if you seek to take down the hours from sunrise you see that they are distinguished by dark lines, although the hours of each day are equal, still they face the others (that is the ordinary hours marked with the red lines) with unlike space; if you do not understand the difference, the hyperbola explains it, which the renowned (or easily understood) conics of Apollonius will give you.

"Apollonius of Perga, B.C. 240, wrote a great work on conic sections. This description is interesting when read in connection with cap. xxxvii. of Munster's 'Horologiographia' (published 1531), where he advocates the use of coloured lines to make more clear the various hours marked on the dials, and quotes two Latin poems bearing on the subject" (L. E.).

Below the description is the name of the dial-maker, Sebastian Sperantius, and the date 1503; after this the motto *Learn to live—think upon death*. Then come two imperfect lines in which the name of Johannes Stabius appears, who is referred to by Munster as one of the chief writers on gnomonics in the sixteenth century; also the name Maximilian, and three dates recording the renovations of the dial.

1036. QUI FAIT DU BIEN ET LE PUBLIE
NE REÇOIT RIEN DANS L'AUTRE VIE.

*He who makes known his good deeds
Will have no reward hereafter.*

Le Replat, Aime (Savoy).

1037. QUI (CUI) HORA NON PUTRIS. *For whom is the hour not fleeting?*

On a dial made by Frère Arsène, capuchin, at Annecy (Haute Savoie).

1038. QUI LABORAT ORAT. 1784. *Who works prays.*

At St. Romans (Isère).

*"O not unowned, Thou shalt unnamed forgive,
In worldly walks the prayerless heart prepare;
And if in work its life it seem to live
Shalt make that work be prayer."*

A. H. CLOUGH.

1039. QUI LOGERA LE PAUVRE DU BON DIEU,
AVRA LE ROYAVME DES CIEUX. 1721.

He who provides for God's poor shall inherit the kingdom of heaven.
At St. Nicolas de Macherin (Isère).

1040. QUI LUCEM DE TENEBRIS LUCET IN CORDE. *He who (sends) light from darkness shines in our heart.*

This text, taken from 2 Cor. iv. 6, is on the Grammar School at Wellingborough, with No. 377. A sun with rays occupies the upper part of the dial face, and the Latin line is written round it. The school was rebuilt in 1620.

1041. QUI MALE AGIT ODIT LUCEM. *Every one that doeth evil hateth the light* (St. John, iii. 20).

No place assigned.

1042. QUI NON EST HODIE. *Who is not to-day* (lit.).

Above a window dial in the hall at Nun-Appleton, Yorkshire. It is difficult to suppose that the rest of the line from whence these words are taken (Ovid, "Rem. Amor." 94) did not at one time occupy the space below the first part, but it is not there now (see Nos. 533 and 1601). Above and below the dial are small landscapes with figures representing the four seasons, with the following lines from Ovid ("Rem. Amor." 187-188):

"Poma dat Autumnus, formosa
est messibus Aestas,
Ver praebet flores, igne levatur hiems."

*Autumn gives fruits, Summer fair with corn appears,
Spring bestows flowers, Winter fire cheers.*

In the centre pane a Cupid holds contemplatively a small dial.

The window probably dates from the beginning of the eighteenth century, when the greater part of the house was rebuilt by Sir William Milner, whose arms are displayed on a corresponding pane of glass. The hall itself may possibly belong to the older house, built by the great Lord Fairfax, and written of by Andrew Marvell, who fondly predicts that—

"The after age
Shall hither come on pilgrimage,
These sacred places to adore,
By Vere and Fairfax trod before."



NUN-APPLETON HALL.

1043. QVI QVASI FLOS EGREDITVR ET CONTERITVR ET FVGIT VELVTI VMBRA. *He cometh forth as a flower, and is cut down, he fleeth also as a shadow* (Job, xiv. 2).

On a brass hexagonal dial-plate in the Victoria and Albert Museum. The chronogram appears to be 1746.

1044. QUI RODIT RODITUR. *The consumer is consumed.*
At St. Romans (Isère).

1045. QUI SCIT AN EXTREMAM STILUS MIHI DENOTET HORAM? *Who knows if the style is marking my last hour?*

Formerly in the cloister of the Convent des Petits Augustins, Paris, now the Ecole des Beaux Arts.

1046. QUICONQUE AIME SON DIEU LA LOI ET LA PATRIE
MÉRITE À JOUR DES BIENFAITS DE LA VIE.
*He who loves God, the law, and the Fatherland,
Deserves to enjoy the blessings of life.*

At Maison Boyer, Corneil (Var). This version probably dates from the Revolution period.

1047. QUICONQUE AIME SON DIEU, SON ROI, ET SA PATRIE,
MÉRITE DE JOUIR DES HEURES DE LA VIE.
*He who loves his God, his king and his country,
Deserves to rejoice all the days of his life.*

Formerly on Maison Bertrand, Aups (Var), but was effaced in 1792, and another motto, AMICIS QUÆLIBET HORA, painted over it. The remains of the first one can still be seen below the other.

1048. QUID CELERIUS TEMPUS? *What is swifter (than) time?*

One of the mottoes on the cross dial at Elleslie, near Chichester (see No. 104). QUID CELERIUS TEMPORE is on Mr. A. Egginton's dial at South Ella (see No. 932).

1049. QUID CELERIUS UMBRA? *What swifter than shadow?*

On a dial which formerly stood in the Isle of Man, and is now at Barnes Lodge, King's Langley (see Nos. 161 and 788).

1050. QUID LUCIDIUS SOLE? ET HIC DEFICIET. *What is brighter than the sun? Yet the light thereof will fail* (Ecclus. xvii. 30).

Given in "Notizie Gnomoniche."

1051. QUID SINE SOLE? NIHIL. 1694. *What without the sun? Nothing.*

At Briollay (Maine et Loire).

1052. QUID STAS? TRANSIT HORA. *Why lingerest thou? The hour is passing.*

Charles Leadbetter, in his "Mechanick Dialling," 1756, mentioned that this motto was over the porch of Caldbeck Church, Cumberland, but the Latin was given inaccurately.

1053. QUIS SOLEM DICERE FALSUM AUDEAT? *Who dares to say the sun speaks false?*

On a buttress of Pocklington Church, Yorkshire, with the names of "A. English, and W. Cook, churchwardens," and date 1820. The line, slightly altered, is from Virgil's First Georgic (see No. 1247).

1054. QUO GRATIORES:
EO BREVIORES.

The more they charm, the swifter they go.

On the Maison Gasquet, Montpellier, used as a hospital for the sick; also at Bizanet (Aude); and Annonay (Ardèche).

1055. QUOCUNQUE INGREDERIS SEQUITUR MORS CORPORIS UMBRA. *Whithersoever thou goest death follows thee as a shadow.*

On a brass portable dial marked A. S. 1697, in Mr. Evans' collection; also on an engraving of a dial in Franz Ritter's "Speculum Solis," 1652.

1056. QUOD ADDO, DETRAHO VITÆ. *What I add to life I take from it.*

On an eighteenth century dial on a fine Romanesque Church at Lanuéjols (Lozère).

1057. QUOD FUT, EST, ET ERIT, PERIT ARTICULO BREVIS ORAE (*sic*)
ERGO QUID PRODEST ESSE, FUISSE, FORE?
ESSE, FUISSE, FORE, HEU! TRIA FLORIDA SUNT SINE FLORE,
NAM SIMUL OMNE PERIT QUOD FUT, EST, ET ERIT.

*What is, has been, shall come,
Fades in a moment brief;
Three flowers that never bloom,
Nought do they bring but grief,
What is, has been, shall come,
Dies like the fallen leaf.*

Inscribed beneath a sun-dial at Monza. See "Notes and Queries," 7th Series, vol. i., p. 187 (March, 1886). The same lines in reverse order were read not long ago on the first page of an old parish register in Cumberland:

"Esse, fuisse, fore, tria florida sunt sine flore,
Omne simul periit quod fuit, est, et erit.
Quod fuit, est, et erit, periit spatio brevis horæ
Ergo parum refert esse, fuisse, fore."

1058. QUOD IGNORO DOCEO. *I teach that I know not.*

Locality unknown.

1059. QUOD MORIERE PATET:
QUÂ MORIERE LATET.

That thou shalt die is plain: when thou shalt die is hidden.

No locality is assigned.

1060. QUOD PETIS UMBRA EST. *What thou seekest is a shadow.*

At Hebden Bridge, Yorkshire.

1061. QUOD SIS ESSE VELIS NIHILQUE MALIS. *What thou art, that wish to be, and prefer nought else.*

This line, from Martial, "Epigrams," lib. x. 47, 12, is engraved above the door of the Château de la Roquette, near St. Martin de Londres (Hérault).

1062. QUOIQU'ELLE PVISSE TARDER ELLE NE MANQUERA PAS.

Death may tarry, but will not fail to come.

At the Château de Fougères (Basses Alpes); above the dial are the words "D + Soleil, Coeur," and on a second dial-plate, facing south, is No. 993.

1063. QUOT HORARUM LAPsus TOT AD MORTEM PASSUS. *So many hours gone by, so many steps towards death.*

This motto is written on an illustration in a French MS. on dials in the possession of Lewis Evans, Esq.; the MS. appears to have been written at Nancy in the first half of the eighteenth century.

1064. QUOT TRACTUS FUGITIVA MEOS HEU PRÆTERIT UMBRA,
TOT GRADIBUS CERTIS MORS VENIT ATRA TIBI. 1830.

Alas, each of my spaces that the fleeting shade traverses, is a sure step by which black death approaches thee.

At Trevières (Normandy).

1065. QUOTA EST HORA? FORSITAN TUA. *What hour is it? perchance thy hour.*

Locality unknown. "Bull. Mon.," 1881.

1066. QUOTA HORA EST, UMBRAM VIDE. 1859. *What hour is it? behold the shadow.*

On the church at Villeneuve sur Vère (Tarn), with No. 216.

1067. QUOTA SIT HORA PETIS, DUM PETIS IPSA FUGIT,
NEC QUAE PRÆTERIT, HORA REDIRE POTEST.

*You ask the hour : meanwhile you see it fly,
Nor can the hour return that passes by.*

At the Villa Modena, Varese, dated "il giorno 6 Maggio 1865." The first line is on a dial made by Zarbula, dated 1851, on the presbytère at Cervières (Hautes Alpes).

1068. QUOTIDIE MORIOR. *I die daily* (1 Cor. xv. 31).

On a dial dated 1695, over the porch of St. Ives' Church, near Liskeard. The plate is ornamented with a coiled serpent at the top, and a Tudor rose at the bottom. The same motto is on one of Zarbula's dials at Aiguilles (Hautes Alpes), on the presbytère, dated 1851.

1069. RAPIAT HORA DIEM. *Let the hour consume the day.*

At Castel Nuovo, near Bormida.

1070. RAPIDE PRAETERIT. *Swiftly it passes.*

On the north face of a meridian dial in the garden of the Hospital St. Jacques at Besançon. On each of the four sides and round the hemicycle are mottoes (see No. 75). It is dated Tissot, 1549.

1071. RAPIDO VOLA IL SOL, RATTE VAN L'ORE,
MA PIÙ VELOCE PASSA NOSTRA VITA,
CHE APPENA È SUL MATTIN, CHE MANCA, E MORE.

*Fast flies the sun and quickly pass the hours ;
But speedier still, our life's brief day
Scarce unto noontide comes, then fails and dies away.*

Given in "Notizie Gnomoniche."

1072. RAPPELEZ VOUS VOTRE HEURE DERNIÈRE,
ET VOUS NE PÊCHEREZ JAMAIS. 1823.

Bear your last hour in mind, and you will never do wrong.

On the church at Plampinet (Hautes Alpes).

1073. REDEEM THY MISSPENT MOMENTS PAST
AND LIVE THIS DAY AS IF THY LAST.

These lines, incorrectly quoted from Bishop Ken's morning hymn, were formerly above the door of the village reading-room at Elvington, Yorkshire. The dial is no longer there.

1074. REDEEM THY PRECIOUS TIME
WHICH PASSETH SWIFT AWAY.
PREPARE FOR ETERNITY
AND DO NOT THOU DELAY.

At Pennoxton Court, Herefordshire (compare No. 281), on four vertical dial faces, the south face being a circular hollow. The dial-stone is much older than the pedestal on which it stands.

1075.

REDEEM V^(E) TIME.V.R.I. Reg. Ann^o Domⁱ 1849.

Over the porch of Shelton Church, Long Stratton, Norfolk. Possibly this dial has been restored, or it may have been put up to replace the older one which is figured in Ladbroke's "Churches of Norfolk," 1820-30, as being on the porch. The same motto is on St. John's Church, Cookbury, Devon; at Brackley; and at Lowick, Northamptonshire; and it is probably a mutilated version of the same inscription which remains as "Rede the time" on one of the chimneys of Weston Mill farmhouse, in the parish of St. Budeaux. This dial plate is of Delabole slate, and is dated 1670; the letters of the inscription are cut in bold Roman characters. Mr. Harry Hems, in the "Western Morning News," said that the dial was erected in the same year as the one which is over the church porch, and the charge for this is entered in the churchwarden's accounts thus:

"For the Dial	£1	17	6
—time a fetching the Dial		1	6
—beere for the workman when hee set up the Dial		0	6."

Richard Knighton and John Marten were churchwardens at this time, and the former was owner of Weston Mill farm. For more than two hundred years the Knightons were connected with St. Budeaux' parish. Mrs. Janet Knighton was chosen churchwarden in 1690, and her name appears at different times in the parish accounts. In 1684 she charged for two repairs to parish property, "6^d for mending the Dyell," and 9^d for repairing the stocks. The motto, "Redeem the time" can still, but with difficulty, be read on a dial on the south transept of Hedon Church,

Yorkshire. The gnomon is gone and the dial almost effaced. *Redeem time*, with date, 1829, is on the south wall of Horton Church, co. Durham.



DIAL HOUSE, TWICKENHAM.

ham, the property of Richard Twining, Esq. The dial was put up by Mr. Thomas Twining, who died in 1741, and was the founder of the well-known tea warehouse in the Strand. It is thought that from continually observing the dial on St. Clement Danes as he went to and from his business, he desired to have one of his own, and so added this to the house which he built in Twickenham. Some years ago it was

1076. REDEEMING THE
TIME. 1725. T. T.

These words, from Eph. v. 16, are on the Dial House at Twicken-

taken down and repainted, and under it was found a fresco painting of a figure of Time, with an hour-glass in his hand, and a cock at his feet.

1077. REDIBO, TU NUNQUAM. *I shall return, thou never.*

On the west dial of the pillar at Tytherton Kellaways, Wilts, with the following paraphrase added by the Rev. W. L. Bowles. (See No. 1619):

“Haste, traveller, the sun is sinking now,
He shall return again, but never thou.”

The Latin motto has been read at Erith, Kent.

1078. REDIME TEMPUS. 1675. *Retrieve the time.*

In the churchyard of Pannal, Yorkshire.

1079. REDUXIT UMBRAM PER LINEAS. *He brought back the shadow by its degrees.*—2 Kings, xx. 11 (Vulgate).

At Montméry, Savoy, dated 1800.

1080. REGARDE, ET FAIS TON CHEMIN.
MOI, JE FAIS LA MIENNE.

*Look, and go your way,
I go mine.*

At Arles, dated 1848.

1081. REGI ET REGNO FIDELISSIMA. 1830. *To the King and his kingdom most loyal.*

The motto of the town of Compiègne, was in 1862 on a dial at the Hôtel de Ville there.

1082. REGIT ME SOL DUM DIRIGIT ORBEM. *Guiding the world the sun rules me.*

No locality assigned.

1083. REGRET POUR CELLE QUI FUT, EFFROI POUR CELLE QUI ARRIVE.
Sorrow for that which is gone, fear for that which is to come.

No locality assigned.

1084. REGULA VIATORIS. *The traveller's guide.*
At Prades (Pyrenées Orientales).

1085. REMEMBER. 1803.
At West Ham.

1086. REMEMBER DEATH.
On the Church at Camborne.

1087. REMEMBER NOW THY CREATOR IN THE DAYS OF THY YOUTH.—
Eccles. xii. 1.

On the Lyme Cage, Disley. See No. 1601.

1088. REMEMBER THY LATTER END. A.D. 1810.

On the tower of Haworth Church, Yorkshire.

1089. REMOVE NOT THE ANCIENT LANDMARK
WHICH THY FATHERS HAVE SET UP.

Richard Hart, Vestry Clerk, 1862.

The above verse from Prov. xxii. 28, is inscribed round the shaft of a dial which stands upon four old steps in the parish churchyard at Folkestone, and marks the spot where by the ancient charters of the Corporation, the Mayor of Folkestone was annually elected. It was restored in 1863. On the dial plate the names of Thomas Baker and John Bolder, Churchwardens, are engraved, with the date, 1783.

1090. RENDONS GLOIRE A DIEU SEUL,
NOUS LUI DEVONS TOUT HONNEUR.

*Let us give glory to God alone,
To Him we owe all praise.*

At La Croiza (Hautes Alpes).

1091. RES SACRAS CLERI, THEMIDIS, MARTISQUE LABORES,
ET PATRIOS COETUS, LUMEN, ET UMBRA REGIT.

The sacred work of the church, the toils of Themis and of Mars, the councils of the nation too, light and shadow rule.

The Cathedral of Fréjus is a Romanesque building of the eleventh and twelfth centuries. Over one of the doors, with ivy growing up the side, is a wooden dial, painted blue with gilt lettering, and thus inscribed.

1092. RESPICITE, NON MIHI SOLI LABORAVI, 1593. *Mark ye, not for myself alone have I toiled.*

On the triangular Lodge at Rushton, Northamptonshire, which was built by Sir Thomas Tresham, and is an architectural curiosity. The building is in fine preservation, and has on each side three gables, which severally terminate in a pinnacle, and on the central gable of each side there is a sun-dial with an inscription. On one is the word "Respicite"; on another, "Non mihi"; and "Soli laboravi" on the third. The plan of the building is symbolic of the Trinity, which is also expressed in the trefoil that forms part of the family crest.

Sir Thomas Tresham, who founded this lodge on his estate, was knighted by Queen Elizabeth at Kenilworth Castle; but being a firm adherent of the Roman Church, like his ancestors before him, he suffered a long imprisonment in the Castle of Wisbech for recusancy. Indeed, for this offence he was three times in custody; his last commitment

being on the 31st December, 1596, from which he was discharged by warrant on the 8th December, 1597. He was a skilful architect, and built the market-house at Rothwell. "Having many daughters," says Fuller, "and being a great housekeeper, he matched most of them into honourable, the rest of them into worshipful and wealthy families." They were six in number. The following extract from a letter, written by Sir Thomas Tresham, about 1584, is curious:—"If it be demanded why I labour so much in the Trinity and Passion of Christ, to depaint in this chamber, this is the principal instance thereof; That at my last being hither committed, and I usually having my servants here allowed me, to read nightly an hour to me after supper, it fortuned that Fulcis, my then servant, reading in the 'Christian Resolution,' in the treatise of 'Proof that there is a God, &c.' there was upon a wainscot table at that instant three loud knocks (as if it had been with an iron hammer) given, to the great amazing of me and my two servants, Fulchis and Nilkton." This story remains to show that there is nothing new under the sun—not even "table-rapping." The triangular Lodge is rich in pious emblems and inscriptions—a noble monument of Sir Thomas's zeal for Trinitarian doctrine. His family was ancient, and influential by wealth and character.

1093. RETAIN YOUR LOYALTY, PRESERVE YOUR RIGHTS.

This motto is engraved upon the base of a tall pillar dial at Appleby, which was erected and inscribed by Anne Clifford, Countess of Pembroke, Dorset, and Montgomery. The dial pillar stands in a prominent position at the top of the principal street, opposite to the parish church, in which there is a monument with a life-sized recumbent figure of the countess—she lived from 1590 to 1675, and was a lady of very strong character and determined will. She fought successfully for her own "rights" on several occasions against strong enemies. James I. tried to prevent her from succeeding as her father's sole heiress to the office of hereditary high sheriff of Westmoreland, but she eventually obtained the post, and held it to the end of her life. She defended her castles against Cromwell, and had disputes with the court of Charles II., so it may fairly be concluded that the precept she chose for her dial was one which she had practised herself under considerable difficulties. For a description of another dial erected by her near Brougham see p. 119.

1094. RICORDATI CHE QUI CONTIAMO IN DUE,
L'ORE MIE TU CONTE, ED IO LE TUE.
*Remember thou that here we two combine;
Thou reckonest my hour as I do thine.*

On Casa Valli, Ameno, Piedmont.

1095. RIEN NE SERT DE COURIR, IL FAUT PARTIR À TEMPS. *Haste is of no avail, it is needful to start in time.*

At Valajanel (Aude). This is the first line in La Fontaine's fable,

"Le Lièvre et la Tortue," but there the two last words are "à point," in a note it is referred to as a proverbial expression used by Rabelais.

1096. RIEN SANS LE SOLEIL. *Nothing without the sun.*
At Marsac (Tarn).

1097. RITORNA COL SOL L'OMBRA FUGGITA
MA NON RITORNA PIÙ DEL UOMO L'ETÀ FIORITA.

20 Ottobre 1855.

*With the sun's return the shade is seen once more
But never more returns man's golden noontide hour.*

Via Giulia, Turin.

1098. RITORNA IL SOL DALL' OMBRA SPARITA :
MA NON RITORNA, NO, L'ETÀ FINITA.
*From vanished night the sun now reappears,
But never shall we see again our vanished years.*

This was on a house, 22, Via Gregoriana, in Rome, in 1865.

1099. RUIT HORA SINE MORA. *The hour flies by, and stays not.*

On an old dial which formerly stood in the rectory grounds at Whickham, co. Durham. The motto was engraved on a scroll round the face of the sun. The dial is now lost. The two first words and date, 1709, are on the vicarage, Ferryhill, co. Durham. There is a second dial on the house with LUX UMBRA DEI.

1100. RUIT UNA, VULNERANT OMNES, ULTIMA NECAT. *One hour flies by, every hour inflicts a wound, the last hour kills.*

At Granier (Savoy).

1101. SACRA THEMIS MORS UT PENDULA DIRIGIT HORAS.

It is difficult to interpret this motto satisfactorily. A friend suggests that if the word *nobis* was inserted in place of *mors* the line would be completed, and the translation would be simplified: *Sacred Justice, as a pendulum, directs the hours for us.* Another suggestion is that *ut* be changed to *et*, making the sense: *Sacred Justice and impending death direct the hours.*

At the Palais de Justice, Paris, above a clock. Formerly there was a sun-dial in its place.

1102. SANCTIFICAT CUNCTAS (HORAS)
AUSPICE MATRE DEI.

He sanctifieth every hour, under the protection of the Mother of God.

On the church of Notre Dame de Marseille, near Limoux (Aude), a shrine where pilgrims resort.

1103. SANS DIEU L'ON NE PEUT RIEN. *Without God one can do nothing.*

On a house at Briançon, with No. 1231.

1104. SANS LE SOLEIL JE NE SUIS RIEN,
ET TOI SANS DIEU TU NE PEUX RIEN.
*Without the sun I am worth nothing,
And without God thou canst do nothing.*

On an outlined dial, dated 1843, seen at the top of the Mont Genève Pass. It is probably one of Zarbula's, as there are several with the same motto, bearing his initials, in the Briançonnais, with dates varying from 1839 to 1871. One at Vieille Ville is ornamented with a parroquet.

1105. SOL.
SANS TA CLARTÉ ET TA CHALEUR
NOUS N'AURIONS NI HEURE NI FLEUR. 1824.
*Unless the sun gave heat and light,
No day would dawn, no flower be bright.*

The sun's face is painted above the word *sol*. The dial is at La Bez (Hautes Alpes). The motto is found in several other villages in the same Department, on dials signed Z. G. F.

1106. SAPIENS DOMINABITUR ASTRIS. *The wise man shall bear rule among the stars.*

At Dergny (Seine Inférieure). SAPIENS DOMINABITUR ORBIS has been read on a small brass dial plate in a shop in Nuremberg.

1107. SAPIENS PRÆVIDET HORAS. *The wise man foreseeth the time.*
At Pont en Royans (Isère).

1108. SAPIENTES NUMERANT HORAS. *The wise count the hours.*

Upon a dial on the front of Langston House, South Devon, which is the property of the Courtenay Bulteels, but the inscription is the punning motto of the Wise family.

1109. SAPIENTIS EST NUMERARE. *It is the wise who count.*

In the year 1710 some old buildings were cleared away from the market-place of King's Lynn, Norfolk, and a market cross erected with four sun-dials, each having a motto (see No. 248). They are given in the private diary of a gentleman, dated 1890. He writes: "The market-place at Lynn very fine and spacious; a very fine market cross, as it is called—a very elegant building, standing on pillars, adorned with statues and four dials, on which are the four mottoes."

IIII. SCIO CUI CREDIDI. *I know whom I have believed.* (2 Tim. i. 12).

At Albi (Tarn), in the garden of the Archbishop's Palace. The dial is horizontal, of white marble, and the motto is that of Archbishop Jean Paul Lyonnet, who died 1875. His arms are also engraved on the dial, and the date 1858.

IIII. SCIS HORAS, NESCIS HORAM. *Thou knowest the hours, thou knowest not the hour.*

On the convent at Cimiez, near Nice. See Nos. 233, 598, 1463, 1475, 1618.

IIII2. S' HAI VERTUDE E PACE IN CORE
NON TEMER CHE PASSIN LE ORE.

*If thou hast virtue and peace in thy heart,
Thou needst not fear the passing away of the hours.*

At Villa Gamberini, Mazza Cozzile, Italy.

IIII3. SE IL MOTO TALOR NON SEGNO L' ORE,
DELLA NATURA SOLO È COLPA IL GIOCO;
SE SI SPIEGA LA CENSURA IL SUO FURORE,
INVIDIA E NON RAGION VI PUÒ DAR LOCO.

L'ETERNO FACITOR CON GIUSTO PESO
L'OPRE SUE COMPARSE CON MISURA;
SE IN CIÒ CREDE TALUN D' ESSERNE LESO,
STOLTO! L'OPRE DIVINE ALLOR CENSURA.

SE IL SOL RESPLENDE IN PIENO GIORNO,
SE IL MONTE OPPOSTO NON TOGLIE I RAGGI,
VERGATE ORE AVRAI A TE D' INTORNO,
QUETI E MUTI FARÒ I MENO SAGGI.

*If the shade sometimes fail the hour to name,
The freak of Nature is alone to blame;
And if to wrath the critic be inclined,
Anger, not reason, governeth his mind.*

*The Eternal Maker all His works hath made
With justest measure, in right balance weighed;
If man there be who thinks they do him wrong,
Fool! what he claims to works divine belong.*

*If the sun shineth forth in fullest day,
And if the mount in front hide not his ray,
The hours thou shalt then have all marked around,
And the least wise must still and dumb be found.*

These inscriptions are the mottoes on three separate dials, which are placed on the sides of the Tower of the Campanile at Trafume, near Canobbio, on the Lago Maggiore. Near the top of the tower is the date thus given: "Anno Domini MDCCCVIII Ristaurato nel 1808.

Capo Maestro Andrea de Bernardi." Each verse is written below its respective dial. We may assume that there were dials before the year named.

- III4. SE IL SOL BENIGNO MI CONCEDE IL RAGGIO
L'ORA TI MOSTRA, E IL CIEL TI DIA BUON VIAGGIO.

*If the sun granteth me his kindly ray,
It shows the hour, Heaven guide thee on thy way.*

Was read somewhere on the route between Florence and Bologna.

- III5. SE IL SOLE CO' SUOI RAGGI ME PERCUOTE
REGOLA SON DEGL' OROLOGI A RUOTE.

*If with its rays the sun upon me steals
I am the ruler of all clocks with wheels.*

Given in "Notizie Gnomoniche."

- III6. SE IL SOLE MI GUARDA OGNUN MI LODA E STIMA.
SE SCURO È IL GIORNO FATE VOI LA RIMA.

*If the sun look on me I'm praised all the time.
If the day be darkling, finish thou the rhyme.*

Given in "Notizie Gnomoniche."

- III7. SE IL SOLE NON SI VEDE,
NESSUN MI CREDE.

*When the sun you cannot see,
No man putteth trust in me.*

On a house at Alagna.

- III8. SE IO SONO OMBRA E COL SOL MI NASCONDO:
SON PUR OMBRA LE COSE DEL MONDO.

*Though but a shadow with the sun I go;
Yet all is shadow in this world below.*

On the Oratory of Sta. Marta at Pavone Canavese, prov. of Turin.
See Nos. 1435 and 1436.

- III9. SE ME MIRAS, ME MIRAN. *If thou lookest at me, they look at me.*

Seen in Spain and also on the Mairie at Cablas (Pyrenées Orientales).
The dial speaks to the sun, of men. Compare No. 73.

- II20. SE NON È QUESTA, QUELLA. *If not this hour, well then! the next.*

Formerly on the Convent of the Théatins, Paris. See No. 1004.

- II21. SE NON RILUCE IL SOL, NESSUN MI GUARDA. *If no sun shines,
none looks on me.*

Given in "Notizie Gnomoniche."

1122. SECUŁA SIC FUGIENT, SIC LUX, SIC UMBRA THEATRUM
 DONEC (S)TELLIGERUM CLAUSERIT UNA DIES.
 SIC PETIT OCEANUM PHOEBUS, SIC VITA SEPULCRUM
 (D)UM (SENSIM) TACITA VOLVITUR HORA ROTA.

*So fly the ages, light and shade shall fly,
 Till one day close the starry scene on high.
 So Phœbus seeks the ocean, life the urn,
 While on still wheels the hours softly turn.*

Inscribed round the circle of hours, on a slate dial face, at Ballakilley, in the parish of Rushen, Isle of Man. On referring to No. 1166 it will be seen that the lines are identical with an "Inscription on a sun-dial in a circle," which was published in the "Gentleman's Magazine," September, 1802. There, however, the first two lines are those which the Ballakilley motto are placed last. It seems probable that the maker of the Manx dial in 1830 copied the inscription from the "Gentleman's Magazine," and was a better mathematician than scholar, since he treated the Latin and Greek mottoes in a very reckless fashion. The word *sensim* was omitted, thereby preventing the fourth line from scanning, and *clausurit* written as two words—*claus erit*. There is a motto at each corner of the plate—

(1) Ζωὴ ἀτμὴ σκίη,

rendered below *Life is the Spectator* (query *Spectre?*) of a *Shadow*, instead of *Life (is) smoke, shadow*, which is the literal interpretation. In the word ἀτμὴ the smooth breathing ought to be over the letter α instead of τ. The usual form of the word is ἀτμός.

(2) "Veni, Vide, Vale" (*Come, see, farewell*). (3) "Learn to value your time." (4) "Every day brings life nearer." On the dial is further written: "Rich^d. Watterson's Dial, Kentraigh Mill, in the Isle of Man. Lat. 54°, 20 N.; Long. 4°, 30' W. MDCCCXXX.

1123. SED FUGIT INTEREA, FUGIT IRREPARABILE TEMPUS,
 SINGULA DUM CAPTI CIRCUMVECTAMUR AMORE.
 JOHN DEVASTON fecit. 1789.

*But meanwhile time flies, flies irretrievably,
 While we, love stricken, dwell on each thing.*

These lines from Virgil, Georg. III. 284-285, were placed by Mr. Devaston on a house dial at West Felton, Salop.

1124. SEE, AND BEGONE ABOUT YOUR BUSINESS.

On a dial over the south porch of Chesterton Church, county Warwick.

1125. SEE THE LITTLE DAY-STAR MOVING
 LIFE AND TIME ARE WORTH IMPROVING,
 SEIZE THE MOMENTS WHILE THEY STAY:

SEIZE AND USE THEM
LEST YOU LOSE THEM
AND LAMENT THE WASTED DAY.

Mr. Howard Hopley recorded this motto without naming any locality, and added, "The little day-star was a spot of light falling through a hole in the pointer to indicate the hour" ("Leisure Hour," June, 1870). The lines are also given by Leadbetter in his "Mechanick Dialling," 1756.

1126. SEEK YE THE LORD WHILE HE MAY BE FOUND (Isaiah, lv. 6).

On the south-west porch of Mattishall Church, Norfolk, dated 1857, and probably a restoration of the older dial, figured in Mr. Ladbroke's "Churches of Norfolk," 1825-30. The motto is also at Cains Cross, near Stroud, with No. 95.

1127. SEGNANDO I PASSI AL SOL L'OMBRA FUGACE,
LA VITA TUA, MORTAL, MESURA E TACE.

*As the sun's steps record the shadow fleet,
Thy life in silence, mortal, doth it mete.*

On a house at Castel Lavazzo, near Longarone. This was the "pagus Labactantius" of Roman times, where there was a horologium or sun-dial in the time of the Empire.

1128. SEGNO A CAMPANA, E LA CAMPANA ANCORA
DEVÈ SONAR, QUANDO IO MOSTRO L'ORA.

*Like belfry's chime the hours I tell,
The belfry chimes when I the hours tell.*

Given in "Notizie Gnomoniche."

1129. SEGNO LE ORE SÌ, MA NON PIÙ QUELLE. *I mark the hours, 'tis true, but no longer those gone by.*

On a farmhouse in the neighbourhood of Lari, Tuscany, and noted by Mrs. Janet Ross in "Macmillan's Magazine."

1130. SEGNO SOLO LE ORE SERENE. *I mark only the bright hours.*

On the wall of the back of Villa Novello, at Genoa. A bank separates the house from the sea, which it faces, and is luxuriantly covered with aloes, prickly pear, and other plants so familiar along the Riviera.

1131. SEMITAM, PER QUAM NON REVERTAR, AMBULO. *I shall go the way whence I shall not return* (Job, xvi. 22).

On the wall of the church at Lavagna on the Riviera di Levante. Lavagna lies between Chiavari and Sestri Levante. It formerly belonged, together with the greater part of the east coast, to the Fieschi of Genoa, who bore the title of Counts of Lavagna. The dial is beside the great door of the church, to which a flight of marble steps leads up, and which faces the sea.

1132. SEMPRE A VOI SEGNI ORE TRANQUILLE IL SOLE,
 QUASI RAGGIO DI LEI CHE QUÌ SI COLE.
*So be the hours the sun brings bright and clear,
 As 'twere a ray from Her who's worshipped here.*

At Villa Mylius, Genoa, there is a plaster cast of the Madonna and Child, and immediately above the figures a dial is painted on the wall with the above motto. It is also on the Sanctuary at Graglia, near Biella.

1133. SEND OUT THY LIGHT AND THY TRUTH THAT THEY MAY LEAD ME.

It was intended by the Rev. John Evelyn Stacey to inscribe this text (Psalm xliii. 3) on a dial in his garden at Grenoside, near Sheffield, but the project has not yet been carried out.

1134. SENESCIS ASPICIENDO. *Thou growest older whilst thou lookest.*
 On a dial at Versailles. Compare Nos. 75, 271.

1135. SENSIM SED PROPERE FLUIT IRREMEABILIS HORA :
 CONSULE, NE PERDAS ABSQUE LABORE DIEM.
*Gently but swiftly flows on the hour that can never return.
 Consider well, that thou lose not the day without its work.*

On a hospital at Casamicciola, Ischia. The town was destroyed by an earthquake in 1881.

1136. SENSIM SINE SENSU. *Softly and no man knows.*

Friston, or Bechyngton Place, now a farmhouse in a deep dell, has features of antiquity, including a hall, the roof of which belongs to the fourteenth century. In the great window is a sun-dial, with the fly painted on it, and the motto given above (Lower's "History of Sussex," 1870, vol. i., p. 103). The words are quoted from Cicero (3 Att. 15): "Sensim et sine sensu ætas senescit."

1137. SENZA L'OMBRA NON DILETTO,
 E PUR L'OMBRA È MIO DIFETTO.
*Without a shadow I do not please;
 Nevertheless a shadow is my defect.*

At Strevi, Monferrato.

1138. SENZA LUME DEL CIEL SI PERDE IL TEMPO. *Without Heaven's light our time is lost.*

Given in "Notizie Gnomoniche."

1139. SENZA PARLAR IO SONO INTESO,
 SENZA FAR RUMOR LE ORE PALESO.
*Without speaking I am understood:
 Without noise I reveal the hours.*

On a wall by the roadside, near Pieve di Sori, Riviera di Levante ; also at Sordevole in Piedmont ; and at Bordighera. Dean Alford notes and translates this motto :

"I speak not, yet all understand me well ;
I make no sound, and yet the hours I tell."

A gentleman walking from Como to Monte Generoso observed at Balerna a slightly different version, which is also at Balmuccia, Val Sesia ; and at Castasegna, Val Bregaglia.

SENZA PARLAR DA TUTTI SON INTESO,
SENZA FAR RUMOR L'ORA PALESO.

*Without speaking I am understood by all :
Without making a noise I reveal the hour.*

II40. SENZA SOLE IO RIPOSO. *Without the sun I rest.*

Traced on the wall of the Albergo del Gatto, a wayside inn at Riva, Riviera di Ponente.

II41. SEPTEM SINE HORIS. *Seven without the hours.*

The meaning of this bald inscription must be that there are in the longest days seven hours (and a trifle over) in which the dial is useless. The motto is on a dial declining west, erected on a gable at Packwood House, Warwickshire. See No. 934.

II42. SEPTIES IN DIE LAudem DIXI TIBI. *Seven times a day do I praise thee.* Ps. cxix. 164.

Over the north door of the cathedral at Padua.

II43. SERIUS EST QUAM COGITAS.
Roland fecit. 1819.

It is later than you think.

At Sermérieu (Isère). The Latin is misspelt on the dial.

II44. SET ME RIGHT AND USE ME WELL,
AND I Y^e TIME TO YOU WILL TELL.

Is engraved on an old pocket dial which its owner thus describes : "It is a ring of brass, much like a miniature dog collar, and has, moving in a groove in its circumference, a narrower ring with a boss, pierced by a small hole to admit a ray of light. The latter ring is made movable to allow for the varying declination of the sun in the several months of the year, and the initials of these are marked in ascending and descending scale on the larger ring which bears the motto. The hours are lined and numbered in the opposite concavity." A similar dial belonging to a cottager at Pelynt, Cornwall, is described and figured in the "The Reliquary." Mr. Lewis Evans has a ring,

made by Proctor, with a slightly different version of the above inscription ; it is arranged thus :

Set me use me and I
Right well Time tell.

1145. SHADOW AND SHINE IS LIFE.

At Bramble Hill, in the New Forest. The quotation is from Tennyson's "Grandmother."

"Shadow and shine is life, little Annie, flower and thorn."

1146. SHADOWS CAST UPON THE DIAL SHOW
THE PRESENCE OF THE SUN ABOVE ;
SHADOWS CAST UPON OUR LIFE BELOW
TRUE TOKENS ARE THAT GOD IS LOVE.

April 6, 1882.

On a dial in Ovingdean churchyard, Sussex.

1147. SHADOWS WE ARE, AND
LIKE SHADOWS DEPART.

In Pump Court, Temple ; and at Menwith Hill, Darley, Yorkshire. See Nos. 468, 1530.

1148. SHINING SPOT FOR EVER SHINING
BRIGHTEST HOURS HAVE NO ABIDING
USE THY GOLDEN MOMENTS WELL
LIFE IS WASTING
DEATH IS HASTING
DEATH CONSIGNS TO HEAVEN OR HELL.

Inscription for a "spot" dial, where the hour is shown by a ray of light instead of a shadow. Given by Charles Leadbetter, 1756.

1149. SHOW ME THE LIGHT OF THY COUNTENANCE.

From Psalm lxxx. 7 is engraved below a handsome vertical dial, erected in 1883 at Abbeyfield, Sheffield, by Bernard Wake, Esq. Above the dial is No. 767.

1150. SI CETTE HEURE, CHRÉTIEN, N'EST CELLE DE LA MORT,
CELLE QUI SUIVRA PEUT-ÊTRE TERMINERA TON SORT.

*Christian, if this is not the hour of death,
Perhaps that which follows will end thy career.*

On the church, La Garde (Isère).

1151. SI CULPARE VELIS, CULPABILIS ESSE CAVEBIS.
NEMO SINE CRIMINE VIVIT : IDCIRCO NE TEMERE JUDICATO.

*If thou wouldst blame, thou wilt beware of being blameworthy.
No one lives without reproach ; therefore judge not rashly.*

At Moccas Court. See No. 1469.

1152. SI MEA VITA FUGIT. *So my life flies.*
At Asti, Piedmont.

1153. SI MUORE. *To all death comes.*
Near Nice.

1154. SI NESCIS, HOSPES, SUNT IIC ORACULA PHOEBI,
CONSULE, RESPONDENT HOC TIBI, DISCE MORI.
*Stranger, here the sun's oracles reply:
Ask them, they give the answer: Learn to die.*
Contributed by the Rev. R. F. Littledale, LL.D.; locality not known.

1155. SI SANS SOLEIL VOUS VIENDREZ,
SANS REPOSE VOUS EN RETOURNEREZ.
1766. 20 Martii. Christophorus a Saxadio fecit.
*If without the sun you come,
Without an answer you must go.*

These lines are on two dials in the garden of the Palazzo della Prefettura, formerly Palazzo Guilini, at Alessandria.

1156. SI SOL DEFICIET NEMO ME ASPICIET. Raniati. *If the sun is hidden no one will look at me.*

Given in "Notizie Gnomoniche."

1157. SI SOL DEFICIT, NEMO ME RESPICIT. *If the sun fails, no one regards me.*

In the cloisters at Chambéry. See No. 847.

1158. (SIC) EHEU FUGACES LABUNTUR ANNI. *So alas! the fleeting years glide by.*

This motto, taken from Horace, is on a dial at Grendon, co. Northton. It was erected by Arthur Bayly Markham, Esq., whose initials and those of his son, Charles W. Markham, appear on the plate with date, 1866, the family crest, and lat. 52, 14.

1159. SIC HOMINIS VITA.
J. Snape delin. 1761.
Such is man's life.

On a horizontal dial, mounted on a graceful pedestal of red sandstone in the churchyard, Sutton Coldfield.

1160. SIC LABITUR AETAS. 1778.
Gasgrave Fecit.
Thus life slips away.

Formerly on Middleham Church, Yorks, but it was removed about the year 1876 when the church was rebuilt, and has not yet been replaced. The motto also occurs at Darlington.

1161. SIC CUNCTIS IMMINET HORIS. *Thus at all hours it is at hand.*

Formerly in Rue des Poules, Paris.

1162. SIC FORTUNA VOLUTAT. *So fortune turneth.*

Formerly at Bercy, on the residence of the Pères de la Doctrine.

1163. SIC MEA VITA FUGIT. *So my life flies.*

At Asti, an old town between Turin and Alessandria.

1164. SIC NOS MORTALES ORIMUR MORIMURQUE MISELLI;
FLOS LEVIS, UMBRA FUGAX, BULLA CADUCA SUMUS.

Even so we wretched little mortals arise and die;

A light blossom, a fleeting shade, a bubble ready to fall are we.

Given in "Notizie Gnomoniche."

1165. SIC PETIS HORA QUOTA EST, DUM PETIS HORA FUGIT.

Thou seekest to know the hour, while thou seekest the hour flies.

Formerly in the Avenue de St. Cloud, Paris.

1166. SIC PETIT OCEANVM PHOEBUS, SIC VITA SEPULCRVM
DUM SENSIM TACITA VOLVITUR HORA ROTA:
SECUA SIC FUGIUNT, SIC LUX, SIC UMBRA, THEATRUM
DONEC STELLIGERUM CLAUSERIT UNA DIES.

So Phœbus seeks the ocean, life the urn,

While on still wheels the hours softly turn,

So fly the ages, light and shade shall fly,

Till one day close the starry scene on high.

Contributed to the "Gentleman's Magazine," Sept., 1802, vol. lxxii., p. 855, as an "Inscription on a dial in a circle." See No. 1122. Leadbetter gives it also in his "Mechanick Dialling," 1756, with the first word as "sed."

1167. SIC PRAETERIT AETAS. *So doth time pass.*

Formerly on the Market Cross, King's Lynn. See No. 248.

1168. SIC SEMPER ORA ET LABORA, AC SI HAEC ESSET MORTIS HORA:
O MATER DEI, FAC, UT CUNCTORUM COR SIT OMNI HORA BONUS
CHRISTI ODOR.

A SOLIS ORTU USQUE AD OCCASUM LAUDABILE NOMEN DOMINI.

Ever work thou and pray as if this were thy hour of death:

O Mother of God, make thou the heart of all a sweet savour of Christ at all hours.

From the rising of the sun to the going down thereof praised be the Name of the Lord.

On a honestone dial sold at Puttick and Simpson's, March 8th, 1895 (Lot 66).

1169.

SIC SUA CUIQUE DIES.

So is his day to each one.

Paraphrase :

*Thus every passing life is found,
A passing shadow on the ground.*

On a dial in a village between Lugano and Como.

1170. SIC TEMPORA LABUNTUR. *Thus glides the time.*On the woodcut of a dial in Arthur Hopton's "Baculum Geodesi-
tiami," Lond. 1610.1171. SIC TRANSIMUS OMNES. *Thus pass we all.*

Formerly in the Convent Garden of the Célestins, Paris.

1172. SIC TRANSIT GLORIA MUNDI. *So passes the glory of the world.*

Formerly on Foun-
tains Hall, near Ripon.
The hall was built out of
the ruins of the abbey,
by Stephen Proctor, one
of the esquires to James I.
It was seen in 1891 on
St. Ives' Church, Corn-
wall, with the maker's
name, "And: Curnow.
Towednack. 1739," but
has now disappeared.
The accounts of the
churchwardens at St.
Ives show that a dial



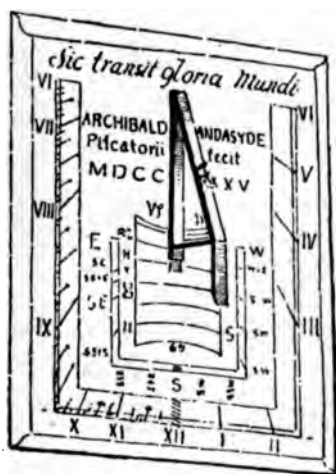
FOUNTAINS HALL, NEAR RIPON.

was set up in 1731. In 1801 Arthur Young described a window dial at North-hill Rectory, Beds., as bearing this inscription (with No. 248), but the dial has gone; it was made in 1664 by Isaac Oliver. A dial on Foulden Church, Norfolk, with this motto and a figure of the sun, dated 1727, has been blown down and destroyed. In 1869 the words were on a seventeenth century house at Heigham, near Norwich. They are still, so far as we know, on the church at St. Just, Cornwall, with a representation of an angel holding an hour-glass with the sun half-risen, and the name of Nicholas Raleigh below. The motto has also been read on Louth Church, Lincolnshire; Brandon Church, Norfolk; on the gate of Dittisham Churchyard, Devon; and on Ancroft Church, Northumberland. It is on a cross-dial with cylindrical hollows at the ends of the head and arms, which is now in the Museum of the Society of Antiquaries at Newcastle-on-Tyne; this was brought from Carlisle and is dated "1786. Ja^c. Jeffrey. fecit." The same motto, with No. 221, and "John Hawksworth fecit Ann. Dom. 1799," is on a pedestal dial which stands on the lawn at Dirtcar House, near Wakefield; also

on a dial at Bridlington Quay, dated 1844; on the gnomon of one at Raughton Head, Cumberland, dated 1778; on the cross-dial at Elleslie, near Chichester, see No. 104; and at Dingley Rectory, Northants, dated 1755.

It has been read on the convent of Pornier, near Geneva, and in two villages in Dauphiné. The motto is also engraved in quaint characters (the capital letters being shaped like animals) upon a brass dial at Baudarapolla, Matalè, Ceylon. A similar dial used to exist in front of the Rest House, Avisawellè, Ceylon, a building which belongs to the Dutch period, and bears an inscription in Dutch on its walls. Also on an ivory portable dial in the shape of a book, having the name of its maker, Hans Ducher of Nuremberg, and the date, 1586.

In 1890 Mr. Ross described a vertical dial which he had seen



INVERESK CHURCH.

lying against the wall of Inveresk Church, Midlothian, with the same motto and the name "Archibaldi Handasyde Piscatorii fecit MDCCXXXV." Piscatorii is a Latinized form of Fisherrow, the village where Handasyde lived. He was a mason and great dial-maker, and made amongst others the fine one at Cramond, and that of Nisbet. He is buried in Musselburgh Churchyard, and the epitaph on the stone records that he was a mason of Musselburgh, or as it is rendered, "Cœmentarii Conchi polensis."

Another vertical dial, with a broken gnomon, and bearing this favourite motto, was seen by Mr. E. C. Middleton, propped against the wall of the Moat at Compton Wynyates. The dial was no doubt originally

intended to be placed on the house.

1173. SIC TRANSIT HORA. 1697. *So passes the hour.*

Over an old doorway at Farnley Hall, Yorkshire; and at Wolvesdon, co. Durham, dated "J^{no}. Finch. 1723."

1174. SIC ULTIMA FORTE TIBI. *Thus perchance will be thy last hour.*
On the Hôtel de Ville, at Riom.

1175. SIC UMBRÆ DECLINAVERUNT. *So have the shadows gone down.*

On the campanile of a church near Lugano.

1176. SIC VITA. *So is life.*

With No. 1013 on a horizontal dial at the Chantry, Newark; in Overton Churchyard, Flintshire (see No. 108); and in the Place St. Jean, Montauban. Mr. Lewis Evans possesses a short MS. by his great grandfather, the Rev. Lewis Evans, F.R.S., who was a mathematical master at Woolwich, in which he gives a drawing, "the

prototype of the marble vertical dial declining east 16° fixed against the south end of Mr. Joanes's (Jones's?) workshop, No. 16 Warwick Street, Worthing, latitude $50^{\circ} 49'$ North." The dial has *Sic vita* above it. The date probably ranges from 1800 to 1823.

1177. SIC VITA DUM FUGIT STARE VIDETUR. *So life while it flies seems to stand still.*

On a house at Bourges (see No. 593). A somewhat similar motto was formerly on the Rue de la Chaussée des Minimes, Paris.

1178. SIC VITA FUGIT. *So life flies.*

On an eighteenth-century dial of lead at Guillac (Tarn); on two of Zarbula's dials in Dauphiné; and at Sestri Levante.

1179. SIC VITA PER HORAS. *Thus life passes through the hours.*

On a French astrolabe dial of the sixteenth century in Mr. Evans' collection.

1180. SIC VITA TRANSIT. *So passes life.*

On the old house of Compton Wynyates, in Warwickshire, which belongs to the Marquis of Northampton. It is sometimes called "Compton in the Hole" from its position, as it stands in a deep hollow surrounded by hills and woods, and seemingly shut in to perpetual loneliness. It is a grand old hall, and was built by Sir William Compton (temp. Henry VIII.), who is said to have brought the curious chimneys from the castle of Fulbrook, which is demolished. He stood in the favour of his king, and may be said to have founded the Compton family as noble. His grandson was created Earl of Northampton by James I., and was father of "the loyal earl," who followed Charles I., and grandfather of Compton, Bishop of London, who opposed James II. The old house suffered much in the Civil Wars, and is now dismantled. It is built round a court, and surrounded by a moat. The roof and ceilings are in good repair. It contains a small chapel for secret celebration of the Mass, with private staircases. The dial is on the south side of the house, overlooking what was formerly the Pleasaunce. There is a second dial over the main entrance, declining west, and a third on a pedestal in the garden. See No. 1172.



COMPTON WYNYATES.

1181. SIC VITA UT UMBRA RECEDIT. *So doth life vanish like the shadow.*

At Sierre, on an old château which is now let out in tenements for the poor.

1182. SIC VITAE CERTA RATIO :
TEMPUS FUGIT, MORS VENIT. 1747.

*Thus is the sure reckoning of life :
Time flies : death comes.*

At Brough, Westmoreland, fixed on a tombstone-shaped stone on the church wall.

1183. SIC VOLVITUR ORBIS. *Thus the world rolls on.*

At the Château de Kernuz (Morbihan). Above the dial is a coat-of-arms, and below it, "Sit nomen Domini benedictum. Fait par Jac. Derien 1677."

1184. SICUT FLOS VITA PERIT. *Life passes away like a flower.*

At the Château de la Rivière (Isère).

1185. SICUT FUMUS. 1731. *(Life is) like smoke.*

Formerly on a chimney, Rue des Fosses, St. Victor, Paris.

1186. SICUT PISCES CAPIANTUR HORAE. *Like fishes let the hours be caught.*

On the Hôtel de Ville, Beaufort (Savoy), with No. 1027.

1187. SICUT TENEBRAE EJUS, ITA ET LUMEN EJUS. *The darkness and light to Thee are both alike.* M. D. F. 1888.

This text, from Psalm cxxxix. 11, is on a dial erected by Albert Fleming, Esq., in his grounds at Neaum Crag, Westmoreland. The pedestal is of native slate. Mr. Fleming is well known as the benefactor who has revived the use of the spinning-wheel amongst the housewives in Langdale. He erected the dial to the memory of his mother, whose initials and the date of whose death are given after the text. To her memory, also, the following lines have been engraved on the base of the pedestal; they were chosen as being specially appropriate to Mrs. Fleming's vigorous and dauntless character :

"O strong soul, by what shore
Tarriest thou now? For that force,
Surely, has not been left vain!
Somewhere, surely, afar,
In the sounding labour-house vast
Of being, is practised that strength,
Zealous, beneficent, firm!"
"Rugby Chapel." *By Matthew Arnold.*

1188. SICUT UMBRA. *As a shadow.*

On the porch of Maker Church, near Devonport.

1189. SICUT UMBRA CUM DECLINAT, ABLATUS SUM. *I am gone like the shadow when it declineth* (Ps. cix. 23).

Given in "Notizie Gnomoniche."

1190. SICUT UMBRA DECLINANT DIES NOSTRI. F. A. D. MDCCCXXII. *Like a shadow our days go down.*

On the Villa Quiete, Varese.

1191. SICUT UMBRA DIES NOSTRI. *As a shadow (are) our days.*

Formerly in the great court of the Sorbonne, Paris, on a fine vertical dial, with an admirable design of Apollo driving the chariot of the Sun. The motto was also in the court of the Célestin Convent, Paris, now destroyed; and has been read at Le Ciotât (Bouches du Rhône). The three first words were on the Château de Preuilly (Seine et Marne).

1192. SICUT UMBRA FUGIT HORA. *As a shadow the hour flies.*

At Verdun sur Garonne (Tarn et Garonne).

1193. SICUT UMBRA TRANSEUNT DIES. *As the shadow pass the days.*

On the church porch of St. Levan, Cornwall. The church is rich in old oak, and also possesses a fragmentary copy of the letter of thanks written by King Charles I. to his people of Cornwall for their fidelity, dated from his camp at Sudeley Castle, 1643, and ordered to be printed, published, and read in every church or chapel in Cornwall, and to be kept for ever as a record of their king's gratitude.

1194. SIDERA MENTE REGIT. *With his mind he ruleth the stars.*

On one of two dials on the Jesuit College at Tours. For the second motto see No. 854. The dials probably date from the seventeenth century.

1195. SIGNAT ET MONET
STULTO LONGA, SAPIENTI BREVIS.

It marks and warns, long to the fool, to the wise man short.

At the Hôtel Cluny, Paris, or, according to another account, on a house near it, and now destroyed. The first line was in 1787 on a house in the Boulevard du Temple, Paris.

1196. SII AVARO DEL TEMPO. *Be no spendthrift of thy time.*

On a tower which forms part of a large eighteenth-century building in the market-place, Fano, Italy. Miss Helen Zimmern, who saw it in 1892, adds "the good advice of the motto did not seem to be generally obeyed in its vicinity."

1197. SILENS ET QUIETA CURRIT. *Silently and noiselessly it hurries by.*
Once in the garden of the Minimes, Paris.

1198. SILENS LOQUOR. *Though silent, I speak.*
La Charité, Paris.

1199. SINE LUMINE INANE. *Without light all is useless.*

Formerly on a finely-painted dial, south declining west, which was

in a window of the church of St. Benet Fink, Threadneedle Street, now destroyed. The foundation of this church was very ancient, but it was rebuilt by Robert Fink the elder in 1633, and after being burnt down, was again rebuilt in 1673. The following extract from the "Saint's Nosegay," by Mr. Samuel Clark, minister of this church from 1642-66, may serve to illustrate the motto: "If the sunne be wanting it will be night for all the stars; so if the light of God's countenance be wanting, a man may sit in the shadow of death for all the glyster of worldly contentment. As light continues not in the house, but by its dependance on the sun: shut out that, and all the light and beauty is presently gone: so we can see nothing but by the constant supply of the spirit of Christ. Hee that begins must finish every good work in us."

1200. SINE LUMINE NIHIL. *Nought without light.*

With No. 232, in the garden at Fellside, Great Snaresbrook.

1201. SINE MOTU CURRO. *Without moving, I run.*

On a house in the Piazza Nostra Signora di Campagna, Piacenza.

1202. SINE NUBE PLACET. *When there is no cloud (the dial) pleases.*

At Vallouise (Isère), dated 1869, Z. G. F.

1203. SINE PEDE CURRO, SINE LINGUA DICO. PASCALIS, ANNO DOMINI, 1790. *Without feet I run, without a tongue I speak.*

At St. Sauveur (Isère), also at Pont en Royans, with "Pascalis le 8 brumaire l'an 4 de la Republique, 30: Octobre 1795." It also occurs at other villages in the same neighbourhood.

1204. SINE SOLE NIHIL SUM. *Without the sun I am nothing.*

On a church at Ornavasso, Lago Maggiore, and at Vevey. With the last word omitted, it is at Cordes (Tarn); and in several other French villages; and was formerly at La Charité, Paris; and at Puisseaux.

1205. SINE SOLE SILEO. *Without the sun I keep silence.*

On the church tower at Hoole, Lancashire, dated 1815; on a house at Ashwick, near Bath; at Goldney House, Clifton, erected by Lewis Fry, Esq.; and in Chorley Churchyard, Lancashire. On the tower of Shillington Church, Bedfordshire, a clock and a sun-dial were formerly to be seen, the sun-dial having this motto, and the clock, as a contrast, *Sine sole loquor* (without the sun I speak). The dial has now been removed.

The motto is on the chapel of St. Philippe, Nice; in the Castle of Monastero, near Bormida; and has been read at Vevey; at Pino, Piedmont; and at Alghero in Sardinia.

1206. SINE SOLE SILEO, SINE NUBE PLACEO. *When there is no sun, I keep silence, when no clouds, I do my office.*

On a dial at Cervières. Above the gnomon a starry globe is depicted, with the sentence, *Benedicite stellae coeli Domini*. (O ye stars of heaven, bless ye the Lord!) Below the numerals is *Adonai memento me. O Jehova adjuva me.* (O Lord, be mindful of me: Jehovah, be thou my help.)

1207. SINE UMBRA NIHIL. *Without shadow there is nothing.*

Formerly on one of the dial faces on the west pier, Brighton (see No. 391).

1208. SINGVLIS HORIS LAVDETUR IESVS
SALVATOR NOSTER, AB OMNI CREATURA.

Every hour, by every creature, let Jesus our Saviour be praised.

Above the motto are the initials, ^{F.C.R.}_{PE.}. The chronogram forms the date 1785. The inscription is on a small stone dial bought by Mr. Evans at Frankfort A. M. in 1893.

1209. SINT FELICES. *May they be happy.*

At St. Rémy (Bouches du Rhône).

1210. SINT TIBI SERENAE. *May thine hours be bright.*

At Bormio.

1211. SIS MEMOR OCCASUS, SOLE ORIENTE, TUI. *At sunrise be thou mindful of thine own setting.*

At Vannes, dated 1743.

1212. SISTE VIATOR JAM HORA EST. *Stay traveller, 'tis time.*

On an inn at Meyrargues, near Aix (Bouches du Rhône).

1213. SIT FAUSTA QUAE LATET. Anno Domini 1823. *May the hour thou knowest not be prosperous.*

This motto, with five others, is in the Place d'Armes, Briançon; and below the dial, encircling a shield, are the words: *Sit nomen Dominum benedictum* (see No. 8).

1214. SIT NOMEN DOMINUM JESU BENEDICTUM IN SECLA.
LAUDABILE NOMEN DOMINUM. 1855.

Blessed is the name of the Lord Jesus for all ages. Praise the name of the Lord.

On the church at Abriès (Hautes Alpes), with Nos. 478 and 1591).

1215. SIT PATRIAE AUREA QUAVIS. *May there be for our country in some wise a golden (hour).*

There was, until the last restoration of the building, a dial carved

in stone and bearing this motto, on the façade of the Maison du Roi, or Broodhuys, at Brussels. This fine old building is opposite the Hôtel de Ville, in the square where the executions of Counts Egmont and Horn took place. The Broodhuys has undergone many alterations. It was built about 1525, and in it the two noblemen passed the night before their execution, but it seems to have been rebuilt in 1668, by order of the Archdukes Albert and Isabella, and again altered in 1757. Until a recent restoration it bore on its façade the following inscription, which contains a chronogram of the date 1624:

A PESTE, FAME, ET BELLO, LIBERA NOS MARIA PACIS.
HO C VOTVM PACIS PVBLICAE ELISABETH CONSECRAVIT.

*From plague, famine, and war, deliver us, Mary of peace,
This offering for the national peace Elizabeth dedicated.*

A statue of the Archduchess was placed above. The dial probably dates from the rebuilding in 1757.

1216. SIT SINE LITE DIES. *Let the day be without strife.*

On Darlington church. The dial is placed high on the south wall; the face is black, the lines and lettering gold.

1217. SIT ULTIMA FELIX. 1792. *May thy last hour be happy.*
At Najac (Aveyron).

1218. ΣΚΙΑΣ ΔΙΚΗΝ ΠΑΝΤΑ. *All passeth like a shadow.*
Hôtel de Mars, Rue du Tournon, Paris.

1219. ΣΚΙΑΣ 'ΟΝΑΡ 'ΑΝΘΡΩΠΟΙ. *Mankind is as the dream of a shadow.*
From Pindar, P. 8, 136, cf. Soph. Aj. 125:

ὁρῶ γὰρ ἡμᾶς οὐδὲν ὄντας ἄλλο πλὴν
εἶδωλ' ὅσοι περ ζῶμεν, ἢ κούφην σκιάν.

Formerly on the convent of the Minimes, in the Place Royal, Paris.

1220. SO FLIES LIFE.

On an old house at Southall, Middlesex.

1221. SO FLYS LIFE AWAY. 1738.

On the church tower at South Stoneham, Hampshire, "Jo. Sharpe, Ro: Houghton, Churchwardens;" also on "The Old Windmill" tavern at Turnham Green, Middlesex, with date, 1717.

1222. SO MARCHES THE GOD OF DAY.

At Hartington Church, Derbyshire. The inscription is probably taken from Leadbetter's absurd translations of Latin dial mottoes.

1223. SO PASSETH AWAY THE GLORY OF THE WORLD.

On the church at Chipping Sodbury, Gloucestershire.

1224. SO ROLLS THE SUN, SO WEARS THE DAY,
AND MEASURES OUT LIFE'S PAINFUL WAY :
THROUGH SHIFTING SCENES OF SHADE AND LIGHT,
TO ENDLESS DAY OR ENDLESS NIGHT.

FOR THE LADY ABNEY AT NEWINGTON, 1735.

These lines were written by Dr. Watts as the motto on a pillar-dial which formerly stood in the garden of Lady Abney at Stoke Newington, Dr. Watts being resident there as tutor in the family of Sir J. Hartopp. Sir Thomas Abney was Lord Mayor of London in 1700, and died in 1722. The dial has been removed to Edmond Castle, near Carlisle, the residence of T. H. Graham, Esq. Mr. H. Hopley has noted a different version of the lines, without recording any locality :

"So glide the hours, so wears the day,
These moments measure life away,
With all its trains of Hope and Fear ;
Till shifting scenes of Shade and Light
Rise to Eternal Day, or sink in endless Night."

Dr. Watts' lines are also on a dial placed, in 1880, on the village school, Carthorpe, Yorkshire.

1225. SO SOON PASSETH IT AWAY (Ps. xc. 10). 1782.

On the church of St. Martin by Looe, Cornwall; and on St. Matthias', Liskeard, with the names of Wm. Henry Hony, LL.D., vicar, Neh. Williams, and Frans. Croker, churchwardens, and date, 1779.

1226. SO TEACH US TO NUMBER OUR DAYS,
THAT WE MAY APPLY OUR HEARTS UNTO WISDOM (Ps. xc. 12).

On the porch of St. John's Church, Leeds. The dial was put up after the restoration of the church, about A.D. 1868, in place of one removed forty years previously. Also in Trefnant churchyard (see No. 1295); and on the porch of Mancetter Church, Warwickshire. There is no date, but a dial is shown in an engraving of 1763.

1227. SOL CERTAS AURA FAUSTAS. *The sun makes the hours sure, the breeze prosperous.*

At Lausac (Bouches du Rhône).

1228. SOL DEUS VISIBILIS :
DEUS SOL INVISIBILIS.

The sun is thy visible God ; God is the invisible sun

At Stonehouse Court, Gloucestershire.

1229. SOL DIEI DUX EST. 1890. *The sun is the guide of day.*

On a *bureau de tabac*, St. Vêran (Hautes Alpes).

1230. SOL EST LUX ET GLORIA MUNDI. *The sun is the light and glory of the world.*

One of the mottoes at Moccas Court (see No. 1469); also on a horizontal dial made by Newton, of Cambourne, and exhibited at Falmouth in 1898:

"Lo ministro maggior della natura
Che del valve del cielo il mondo imprenta
E col suo lume il tempo ne misura."

DANTE, *Paradiso*, x. 28.

1231. SOL EST REGULA. *The sun is the rule.*

On a house at Briançon. See No. 1103.

1232. SOL ET LUNA FACIUNT QUAE PRECEPTA SUNT EIS; NOS AUTEM PEREGRINAMUR A DOMINO. *The sun and moon do what hath been bidden them, but we wander away from the Lord.*

Near a great sun-dial on the parish church of St. Affrique (Aveyron), and described by Mr. Barker in his "Wanderings by Southern Waters." "The extraordinary astronomical dials," he writes, "cover most of the surface of the outer walls. They are exceedingly curious, and some of the calculations really astonishing, as *e.g.*, a table showing the number of souls that have appeared before the tribunal of God." Baron de Rivière gives both this and another motto in French; possibly both versions may be on the dials (see No. 212).

1233. SOL GLORIA MUNDI. *The sun is the glory of the world.*

On a house in Whitehorse Yard, Wellingborough.

1234. SOL LUCET OMNIBUS. *The sun shineth for all men.*

On a house at Sècles (Carrèze); and at Pont de Beauvoisin (Isère).

1235. SOL ME VOS UMBRA REGIT. *The sun guides me, the shadow you.*

On the church of St. Stephen by Saltash, which is the original parish church of Saltash, the names of Joseph Avery and Savell Doidge, 1783, are also engraved on the dial. The motto is on three of Zarbula's dials in the Hautes Alpes. Also on a farmhouse at Coldthorpe, Gloucestershire, the last word being omitted.

1236. SOL MINISTRAT UMBRAM. *The sun provides the shadow.*

John Calcott fecit, 1824, George Ore, Samuel Worthen, Churchwardens.

On the dial in the churchyard of Prees, Salop.

1237. SOL MOMENTA NICOLAUS MORES. 1666. *The Sun makes the moments, Nicolas the manners.*

On the wall of the former presbytère of the church of St. Nicolas des Champs, Paris.

1238. SOL NON OCCIDAT SUPER IRACUNDIAM VESTRAM.—Ephes. iv. 26.
Let not the sun go down upon your wrath.

Richard Melvin, fecit, from London.

This motto, with No. 443, is on a handsome pillar bearing a horizontal dial of slate at Ember Court, Surrey. The inscriptions are somewhat defaced. Besides the central dial there are four small ones at the four corners, showing the time of day at other places on the earth's surface. The same text is on dials at Areley Kings, Cheshire; (No. 74) at Ninane, Belgium; La Fiera di Primiero, Tyrol (No. 426); and at Bozel, Savoy.

Several dials made by Richard Melvin of London, and apparently also of Dublin, are noticed in this work. They are usually of slate, horizontal, and engraved with great care, sometimes showing the time at places abroad, and accompanied by smaller dials at the sides, in the corners, which are for the same purpose. Three of Melvin's dials are in Warwickshire, another at Ruthin Castle, one at Dover, and one at Killiney, dated 1864. Some have mottoes, and some not.

1239. SOL ORITUR CADIT ET LUSTRALIS EVOLAT HORA
AT NOBIS IMMOTO SISTITUR ORBE DIES.

*The sun ariseth, it setteth, and the hour of worship arrives,
But our day standeth fast in its unmoved circle.*

On the church of St. Francis Xavier, Besançon. The lines were composed by the Abbé Pioche, Professor at the College of the Pères Eudistes. See No. 1251.

1240. SOL PRO OMNIBUS LUCET. *The sun shines for all men.*

On the belfry of the church at Orly (Seine).

1241. SOL REDIT VITA TRANSIT. *The sun returneth, life passeth.*

Locality unknown.

1242. SOL REGIT OMNIA. *The sun rules all.*

At Manc (Basses Alpes).

1243. SOL REX REGULA. *The sun is King and guide.*

At Alleins (Bouches du Rhône).

1244. SOL SOLUS SOLVIT. *The sun is the only solver.*

Composed by William Fane, Esq., for a dial in his garden at Fulbeck Hall, Lincolnshire.

1245. SOL TEM[P]O DI SATURNO IL DENTE EDACE
E DEL PALLONE IL GIOCATOR FALLACE. 1826.

*Nothing save Time's destructive tooth I dread,
And the ball by unskilful player sped.*

At Chieri, in Piedmont. Two or three Italian scholars have tried

to make sense of this obscure motto, and have failed. The first allusion to the mythological legend of Saturn devouring his children will be recognized; and the accompanying simile can only be explained by a reference to the favourite Italian game of *pallone*. This game somewhat resembles *tennis*, and still remains a living representative of the old Roman game of *pila*. The manner of playing it has been thus described by Mr. Story ("Roba di Roma," vol. i.): "It is played between two sides, each numbering from five to eight persons. Each of the players is armed with a *bracciale*, or gauntlet of wood, covering the hand and extending nearly up to the elbow, with which a heavy ball is beaten backwards and forwards, high into the air, from one side to another. The object of the game is to keep the ball in constant flight, and whoever suffers it to fall dead within the bounds loses. The game is played on an oblong figure, marked out on the ground, or designated by the wall around the sunken platform on which it is played, and across the centre is a transverse line dividing the two sides; and as the ball falls here and there, now flying high in the air, and caught at once by the *bracciale* before touching the ground, now glancing back from the wall which generally forms one side of the lists, the players rush eagerly to hit it, calling loudly to each other, and often displaying great agility, skill, and strength." Allusions to the game of *pallone* may be found in the works of the modern Italian poets. Leopardi and Aleardi have both made use of it as a subject of their verse. The above motto was ultimately shown to Antonio Maschio, a gondolier in the service of the National Bank at Venice, well-known for his interpretation of Dante's "Divina Commedia." He said at once that the word *tempo* should be *temo*, and then the meaning would be, "I fear only the devouring tooth of Saturn and the inexperienced player with the ball"—that is, the gnomon fears alike Saturn's wet weather which corrodes iron, and the bad *pallone* player who may throw his ball against and break it.

1246. SOL TEMPORA DIVIDIT ÆVI.—Lucan, *Pharsalia*, 10. *The sun divides the seasons of time.*

Given in "Notizie Gnomoniche."

1247. SOL TIBI SIGNA DABIT : SOLEM QUIS DICERE FALSUM AUDEAT? *The sun will give thee the signs : who will dare to say the sun is false?* (From Virgil's First Georgic, line 463.)

This is the motto of a sun-dial on one of the terraces at Bramshill Park, Hants. At the same place there are three other dials, which bear the arms of the Cope family with dates and initials, but they have no mottoes.

This was the motto of the old "Sun" newspaper. Dryden's translation of the line runs:

"The sun reveals the secret of the day,
And who dares give the source of light the lie?"

The first part of the motto, SOL TIBI SIGNA DABIT, was, until 1882, on the Bridge Trust Building, Bideford, erected in 1758. It is still on the wall of the cloister of St. Stefano, Belluno, now used as a public building. See No. 1434.

The latter half of the line is on a dial at Newbiggin, near Carlisle, dated 1722 and inscribed "Carolus Aedes delineavit, Johannes Gosling sculpt." ; also on St. Mary's Church, Penzance, with No. 1334 ; this dial was removed from the old church to the present modern building. See also No. 1053.

1248. SOLAREM SIGNAT LINEA PICTA VIAM. *The painted line marks the sun's path.*

Given in "Notizie Gnomoniche."

1249. SOLARIUS NOBIS COMMUNUIT ARTICULATIM DIEM (Plaut. Fragm.), *The diallist splits up the day for us into small parts.*

Given in "Notizie Gnomoniche."

1250. SOLE HORAM DO IN DEO SPEM VIDES. Z. G. F. 1841. *By the sun I give (the time) ; in God thou seest thy hope.*

At Abriès. The dial, like many of those made by Zarbula, is ornamented with pictures of birds ; here there is a toucan and a parakeet, with their names attached. The motto, imperfectly rendered, is also at Le Pinet (Hautes Alpes).

1251. SOLE NITENTE LOQUOR TACEO SINE SOLIBUS HORAS
TU NISI FORTE POTES DISCERE VERA TACE.

When the sun shines I speak, in the sunless hours I keep silence : do thou, unless perchance thou canst learn the truth, hold thy peace.

On the chapel of the College of the Pères Eudistes, and written by the Abbé Pioche, Professor of Rhetoric. See No. 1239.

1252. SOLE ORIENTE, FUGIUNT TENEBRAE. *With the rising sun the darkness flies.*

On a dial in a garden in the diocese of Connor.

Bishop Mant, in his Latin and English poem, "The Sun-dial of Armoy," writes thus :

"Night flies before the orient morning,
So speak the Dial's accents clear ;
So better speaks the Prophet's warning
To ears that hear.
"Night flies before the Sun ascending ;
The sun goes down, the shadow spreads—
O, come the day which, never ending,
No night succeeds.
"And see a purer day-spring beaming,
Unwonted light, nor moon nor sun ;
But Light itself, with glory streaming.
God on His throne !"

1253.

SOLE ORIENTE ORIOR,
SOLE PONENTE CUBO.*With the rising sun I wake,
With the setting sun I sleep.*

Believed to be in Malta.

1254. SOLEM CERTISSIMA SIGNA SEQUUNTUR (Virgil, Geor. I. 439).
Most sure are the signs which follow the sun.

Given in "Notizie Gnomoniche."

1255. SOLEM SUUM ORIRI FACIT SUPER BONOS ET MALOS, ET PLUIT SUPER JUSTOS ET INJUSTOS. *He maketh His sun to rise on the evil and on the good, and sendeth rain on the just and on the unjust* (St. Matt. v. 45).

On a horizontal dial, dated MDCCCLXXXVI, made by C. W. Dixey and Sons, New Bond Street.

1256. SOLES PEREUNT ET IMPUTANTUR. *Days (literally, suns) depart and are reckoned.*

Outside the Dean's kitchen at Durham is a dial which bears this inscription. In 1888 it was much decayed. The motto comes from Martial's "Epigrams," v. 20, 23. It is also over the south porch of Woodhorn Church, Northumberland, with letters T. R. S. and 1840.

1257. SOLI DEO GLORIA. *To God alone be glory.*

This inscription is cut on several stones in Nuremberg, and may have belonged to dials which have been removed. It is also on a portable ivory compass dial in the Nuremberg Museum, made by Paulus Reinman, 1602; on another in the British Museum, "Paulus Reinmann zu Normberg, faciebat 1578"; on two marked "Nicolavs Miller, 1645," and on many similar dials in other collections. See No. 1320.

1258. SOLI DEO HONOR ET GLORIA. *To God alone be honour and glory.*

On an old dial at Queyrières, and at other villages in the Hautes Alpes. The words used to be often found inscribed over old house doorways in Edinburgh; amongst others over the notorious Major Weir's house, dated 1604. Mr. Robert Chambers tells us that in the reign of Queen Mary the above was the "fashionable grace before meat" of the Scottish nobility.

1259. SOLI DEO OMNIS GLORIA. J. Smith 1838. delin. Bielby. *To God alone be all glory.*

With No. 97, on the Wesleyan Chapel at Bielby, near Pocklington. See No. 1406.

1260. SOLI, SOLI, SOLI. 1756.

Seen in 1863 on a house at Monthey, Canton Valais. The motto and date (1756) were on a scroll above the dial, and the sun's face

made a central point where the gnomon was fixed. The same words have also been read at Bonneville; at Château Queyras (see No. 48); and in other villages in Dauphiné, in one case with the date 1700. They are also at Mouriez (Bouches du Rhône), on the house where Nostradamus once lived, and is said to have been placed there by the prophet himself. He died July 2nd, 1566.

The word SOLI alone has been seen on a dial in the hamlet of Ozier (Isère); and SOLI, SOLI on others in the hamlets of La Valadière, and of Légerie (Isère). The representation of the sun as a human face with rays all round it, which is often seen on dials, is of very ancient origin. It has been found carved in relief at Babain in Upper Egypt, with figures of priests below offering sacrifice. In this manner the Persians also represented the Sun God, as well as in the form of a young man, Mithras. It is possible that the words, *Soli, soli, soli*, and *Deo soli gloria* (which may bear a double meaning), were originally Mithraic inscriptions. Under the Roman Empire there were altars set up to Mithras with the inscription, *Deo invicto Mithrae*. Several have been found in England inscribed *Deo soli*, To God the sun; *Deo soli invicto*, To God the sun unconquerable. That traces of this ancient worship should still be found on sun-dials need surprise no one. [If *Soli, soli, soli*, be indeed a Mithraic inscription, it probably should be translated, "To the peerless sun, we only," i.e., the secret society of Mithraists.—R. F. L.]



MONTHHEY, CANTON VALAIS.

1261. SOLI POSUIT A. FERGUSON. 1803. *To the sun A. Ferguson set up (this dial).*

At Hallyards, Peeblesshire, on a dial put up in his garden by Professor Adam Ferguson.

1262. SOLI PRO FIDE. *To the sun for the faith.*

At the hamlet of Les Murets, St. Égrève.

1263.

SOLIS ADIT LUX,
HIC DOCET UMBRAE CRUX,
DATUR HORA.
UMBRAM ADDIT NOX,
HINC ABIT UMBRAE VOX,
ABIT HORA ABSIT MORA.

*The sun's light shineth here,
The shade's cross teacheth clear,
Told is the hour of day.
Night makes the shade more dense,
The shade's voice goeth hence,
The hour goes, let there be no delay.*

These lines are engraved on the eight sides of a shaft in the vicarage garden, Shenstone, near Lichfield, upon the top of which is a cross dial (see Nos. 474 and 1384), erected and inscribed by the Rev. R. W. Essington. On a slate step at the shaft's base there are two more mottoes, one in Greek and the other in Hebrew: (1) ὥραν διδωσι

+ ὁντος ἡλίου (the word σταῦρος, *a cross*, being supplied by +). *The cross gives the hour in sunshine.* And, (2) יְהִי אֵשׁ.
Let there be light.

Two other translations have been made of the Latin lines, but the one given above seems to follow the original more closely than the rest.



SHENSTONE VICARAGE.

(1) *Sunlight falls, and lo! the Cross's
shadow fain would teach
To us the present hour by heaven is
lent!
Night darkens, and then no longer
can the shadow preach,
Avoid delay, your time is almost
spent.*

(2) *Light falls from heaven!
Then doth the Cross's shade
This lesson sweetly teach:
Thy time—Heaven's grace!
Night's deeper shades
Close round! the voice is hushed
So soon that grace is spent,
It flies apace,
Hold on thy race.*

1264.

SOLIS ARDOR EXTRA
CARITAS INTRA.

The sun's heat without, charity within.

On the Hospital, La Rochefoucauld, France.

1265. SOLIS ET ARTIS OPUS. *The work of the Sun and of Art.*

A MAI CESSAR D'OPRAR SEMPRE C' INVITA. *To ceaseless round
of toil the hour ever calls us.*

il Giorno 23 Maggio 1867.

Seen near Varese; also at Milan; and on a house between Palermo and Monreale, dated 1882. In 1860 it was on a house at Grasse.

1266. SOLUS NON ERRAT. RECEDO NON DECEDO. OBLIQUE ET UBIQUE.

He alone makes no mistake. I go back again, I do not go away. Aslant and everywhere.

Given in "Notizie Gnomoniche."

1267.

SON FIGLIA DEL SOLE
E FUR SON OMBRA.

I am child of the sun, and yet am shade.

Seen by the Countess Martinengo Cesaresco on the Col di Tenda in 1870. Dean Alford mentioned the same motto in his letters from the Riviera, and he paraphrased it thus :

*I the sun my father call,
Yet am shadow after all.*

1268. SON POCHE LE ORE MIE, LE TUE SON MOLTE. *Few are my hours, how many thine !*

At San Remo ; and also at Ventimiglia.

1269.

SON SENZA SUON E SENZA VOCE, ANCORA
OPUR SE LUCE IL SOL, TI DICO L'ORA.

*I have no sound, nor voice, yet by the light
Of sunbeams touched, I tell the hours aright.*

At Vegliasco, near Alassio.

1270. SONGEZ A DIEU ET AU PROCHAIN. 1860. *Think upon God, and of thy neighbour.*

At Abriès (Hautes Alpes).

1271. SONGEZ A LA DERNIÈRE. 1733. *Think upon the last (hour).*

On the church at Mens (Isère).

1272.

SONO BARRA OSCURA E FISSA.
EPPURE SONO SERVA DEL SOLE
E SCHIAVA DEL MOTO.

*I am an iron bar, black and firm fixed,
Yet am I handmaid of the sun
And a slave to the laws of motion.*

On the tower of the Grand Hotel, Pegli ; placed there in 1874, and the motto added by the Marquis de Nicolay.

1273. SONO PRONTO A FAR OFFIZIO MIO ; SE MANCHA IL SOLE M'ANCHO ANCH'IO. IN VANO CERCA LORA MENTRE NON È SOLE. [SONO PRONTO A FAR UFFIZIO MIO, SE MANCA IL SOLE MANCO ANCH'IO ; IN VANO CERCAR L'ORA MENTRE NON È SOLE.] *I am ready to do my duty ; if the sun fails, I fail also. It is in vain to seek the hour when there is no sun.*

On No. 85, Via Vittorio Emanuele, Chiomonte (Prov. of Turin).

1274. SOUVENEZ VOUS DE VOS FINS DERNIÈRES. 1846. *Think upon your latter end.*

On the church of the St. Crucifix, Cordes (Tarn).

1275. SOUVIENS TOI, O HOMME, QUE TU EST POUSSIÈRE
ET QUE TU RETOURNERAS EN POUSSIÈRE. 1841.

Remember, O man, that dust thou art, and unto dust shalt thou return.

On the belfry tower, La Salle (Hautes Alpes).

1276. SOYEZ MOI FIDÈLE. *Be thou faithful unto me.*

At Sylve Bénite (Isère).

1277. SPE ILLECTAT INANI. MDCV. *With vain hope he attracts.*

Rue de la Préfecture, Nice.

1278. SPECTATOR FASTIDIOSUS SIBI MOLESTUS. *He that looks too proudly is a trouble to himself.*

At Bywell Abbey, near Newcastle-on-Tyne. It is difficult to understand what this motto means; we have translated it literally. It may either point to a spectator bending over the dial so as to intercept the sunshine; or as a passer-by who is too proud to use this humble means of learning the time.

1279. SPECULUM VITÆ. *The mirror of life.*

At Voreppe (Isère).

1280. SPERO LUCEM. *I hope for the light.*

On the church in the village of St. Antoine, Pelvoux (Hautes Alpes).

1281. SPLENDOR ET ORDO. *Light and order due.*

On the palace of the Tuileries in 1787. From a MS. list of dial mottoes of that period, published by the Comte du Marsy in 1881.

1282. STA PROMISSIS. *Stand to your promises.*

On the stone pedestal of a dial at Niddrie Marischal, near Edinburgh, the seat of the Don Wauchopes. The arms of the family are engraved on the bronze dial face, and also on the pedestal, but the motto is not their heraldic one. The words, *Wachop of Niddrie*, are inscribed beside the shield on the face; and also *Jacobus Clark, Dundee, fecit*. There is no date.

1283. DIALL. (*log.*) STAIE, PASSINGER

TELL ME MY NAME

THY NATVRE.

PASS. (*resp.*) THY NAME IS DIE

ALL. I AM A MORTALL

CREATVRE.

DIALL. (*log.*) SINCE MY NAME
AND THY NATVRE
SOE AGREE,
THINK ON THY SELFE
WHEN THOV LOOKST
VPON ME.

There is an ancient dial, having four sides, at Millrigg, in the parish of Culgaith, near Penrith. The opening dialogue betwixt Dial and Passenger is inscribed on one side of the square, and on the other side is Dial's moral deduction from it.

The two remaining sides of the square are occupied by the armorial bearings of the families of Dalston and Fallowfield, together with the initials "I. D." and "H. F." John Dalston resided and died at Millrigg in 1692. He was the son of Sir Christopher Dalston, of Acorn Bank, who was knighted by James I. in 1615. This latter place was the chief residence of the family. The manor of Temple Sowerby, immediately adjoining, was granted by

Henry VIII. to Thomas Dalston, Esq., on the distribution of religious houses. It belonged originally to the Knights Templars, and afterwards to the Hospitallers. Millrigg is now occupied as a farm-house.



MILLRIGG, CULGAITH.

1284. STAT SUA CUIQUE DIES, ATQUE IRREMEABILIS HORA. *For each one his day is appointed, and the hour from which there is no return.*

Given in "Notizie Gnomoniche."

1285. STATE, VENIT HORA. *Stay, the hour is at hand.*

At Aiguères (Var).

1286. STEH' BEY UNS IN ALLER NOTH,
HIER IN LEBEN UND IN TOD.

Stand by us in all need, here in life and in death.

At Salzburg. There is a fresco of the Virgin and Child with the dial.

1287. SVB HAC VMBRA DATVR SECVRA QVIES.
EX HOC OMNIS DECOR EXVRGET.

Under this shade is given rest without care. Hence will all grace arise.

Each line gives the date 1726. They are on a brass folding dial, ornamented with a bishop's mitre and crozier, in Mr. Evans' collection.

1288.

SUB UMBRA QUIESCUNT. 1770.

SUB LUCE GAUDENT. 1785.

*Under the shade they rest.**Under the light they rejoice.*

On the Hôtel des Invalides at Paris.

1289. SUCH IS LIFE. 1800.

On the church at Buckminster, Leicestershire.

1290. SUFFICIT UNA, ULTIMAM TIME. *One sufficeth, fear the last.*

In the principal square at Annecy a meridian dial was placed by Frère Arsène, a Capuchin, the maker of several dials set up at different places in Savoy. This one is described in a brochure, "Le Montre Solaire d'Annecy." There were, as is often the case, dials of different kinds on the same stone. On the south side were two equinoctial dials, with the mottoes given above, and the additional lines :

" Tel, qu'un Lion de sang avide
Se précipitant sur tes pas,
La mort suite un course rapide
Avec l'arrêt de ton trépas."

As a lion thirsting for blood pursues thy steps, so Azrael rapidly follows bearing thy death warrant.

There are also the arms of the town of Annecy, and the initials L. D. M., L. J. F., which stand for "Laus Deo Mariæ, Laus Joseph Franciscus."

On the east side is : "Une de plus, une de moins"—*One more, one less* ; and on the west : "L'éternité dépend d'une heure"—*Eternity hangs upon an hour.*

1291.

SUM GENITOR VERI, DOMITOR LEVORIS, APERTI

INDEX, ASTRORUM FILIUS ATQUE COMES

ME SEQUOR ET FUGIO MEA PER VESTIGIA : NUMQUAM

CUM SINE QUOTIDIE NASCOR ET INTEREO.

1688.

I am the father of truth, the conqueror of malice, the pointer of the open sky, the son and comrade of the stars. I follow myself and flee along my own tracks, daily am I born, daily I die.

At the Hameau de Platre-Rousel, near Monbonnet (Isère).

1292.

SUM MUTUM AT MUTI TAMEN EXPLICO LUMINA PHŒBI

UMBRA MIHI LINGUA EST NEC TAMEN VMBRA SONAT

AVRIBUS HINC NVLLIS OPVS EST ME INTERPRETE TEMPVS

OMNE SCIES OCVLVS SI SVBIT VMBRA TUOS.

V. F. 1706.

Voiceless am I, yet do I interpret the light of voiceless Phæbus. The

shadow is my tongue, yet the shadow gives no sound: hence when I inform thee thou needest no ears, thou shalt know the time when thou wilt, if the shadow comes beneath thine eyes.

On a German honestone dial sold in London.

1293. SUM SI SOL SIT. *If the sun is, I am.*
At Viriville (Isère).

1294. SUMUS UMBRA 1691. *A shadow are we.*
Seen on an old house in Lower Tottenham. "Notes and Queries,"
Fourth Series, iv. 188.

1295. SUNS RISE AND SET,
TILL MEN FORGET
THE DAY IS AT THE DOOR
WHEN THEY SHALL RISE NO MORE.
O EVERLASTING SUN,
WHOSE RACE IS NEVER RUN,
BE THOU MY ENDLESS LIGHT,
THEN SHALL I FEAR NO NIGHT.

In Memoriam T. E. W. D., 1880.

These lines, with Prov. x. 7, and Ps. xc. 12, are on two sides of a column bearing a dial, in the churchyard of Trefnant, co. Denbigh. It was erected by Mrs. Whitehall Dod, of Llanerch. There are also devices, such as the cross within a triangle, a sickle, and an hour-glass inclosed in a serpent ring. See No. 1226.

1296. SUPRA SOLEM VERITAS, SUB SOLE VANITAS.
Pascalis, Anno Domini 1790.
Above the sun is truth, beneath it vanity.

At Beauvoir (Isère).

1297. SUPREMA HÆC MULTIS FORSAN TIBI. *For many men their last hour, perhaps for thee.*

At Rians (Var); and formerly at St. Gèneviève, Paris. A similar motto has been read on the Riviera; and in the garden of the Hospital of St. Jacques, Besançon. See No. 75.

1298. SUR CE CADRAN JE VAIS ET REVIENS CHAQUE JOUR,
MAIS L'HOMME DISPARAIT, HELAS! ET SANS RETOUR.
*On this dial I go and come again each day,
But man, alas! vanishes, and returns no more.*

On the church at Bellentre, Savoy.

1299. SURGE QUI DORMIS. *Awake thou that sleepest* (Eph. v. 14).

On an engraving of a dial in J. Voellius's "De horologiis Sciothericis." 1608.

1300. SWIFT RUNS Y^r TIME,
THIS DIAL FACE DOTH SHOWE,
Y^r HOURES ARE FEWE
THAT Y^r SHALL PASS BELOWE.

Mr. Harry Hems wrote in "The Building News," 1888: "It is twenty-four years ago or more that, at that time an apprentice lad in Yorkshire, I recut an inscription upon an old sun-dial as above."

1301. TA NY LAGHYN AIN MYR SCAA. *Our days are like a shadow.*

With No. 1337 on a dial at Kirk Braddan, Isle of Man, dated 1860. Over the dial face are the arms of the island, three legs conjoined on the fess point, and beneath it are the mottoes.

1302. TA NYN LAGHYN ER Y THIALLOO MYR SCADOO. 1835. *Our days on the earth are as a shadow* (1 Chron. xxix. 15).

On Malew Church in the Isle of Man. The dial face is of white marble.

1303. TA VIE PASSE COMME CET OMBRAGE
PRENDS Y GARDE ET TU SERAS SAGE.
*Life passes as this shadow,
If thou art wise thou wilt take care.*

At Renage (Isère).

1304. TACITIS SENESCIMUS HORIS. *We grow old in the silent hours.*
At Bozel (Savoy).

1305. TACITO PEDE LABORO. *I toil with silent foot.*

On the wall of the old palace of the Princes of Masserano (La Marmora) at Masserano, in the province of Novara, Italy. Lamartine expresses a similar idea:

"L'ombre seule marque en silence
Sur le cadran rempli, les pas muets du temps."

1306. TAK TENT O' TIME, ERE TIME BE TINT.

One of eight mottoes that were inscribed on an octagonal pillar bearing a dial on each side, which stood in front of the Exhibition Buildings at Edinburgh in 1886. There was also an inscription stating that the Exhibition was opened by Prince Albert Victor of Wales, and the dial was called after him. The other seven mottoes are given under their several headings (see Nos. 61, 656, 706, 1404, 1405, 1412, 1649). The dial was removed when the Exhibition was taken down, and it is not known what became of it. The same motto is at Whitcheater, Duns, Berwick, on a dial erected for Andrew Smith, Esq., by Mr. Bryson. It has also been inscribed on the new base of an ancient dial with twelve faces, a "dodecahedron," which was brought by Sir William Wedderburn, Bart., from Inveresk Lodge, Midlothian, and erected at Meredith Court, Gloucestershire. This dial is dated 1691.

The late Sir William Stirling Maxwell, Bart., placed this motto on the clock tower at Keir, Perthshire, with the following lines :

"It is later with the wise than he is aware."

"Hours are Time's darts, and one comes winged with death."

1307. TAKE HEED, WATCH AND PRAY, FOR YE KNOW NOT WHAT THE TIME IS.

On the tower of Ramsey Church, Huntingdonshire.

1308. TAKE UP THE CROSS AND FOLLOW ME.

Leadbetter states that this text, with a figure of St. Andrew and his cross, were on a sun-dial upon the south side of St. Andrew's Church, Holborn, in the eighteenth century.

1309. TARDA SE SPERA.
VELOCE SE VERA.

Slow to Hope. Swift to Sight.

On a house between Borgo Mazzano and Ponte a Mariano, near Bagni di Lucca.

1310. TARDIOR EGENTI. *Too slow to the needy.*

On a dial in a picture by Jeaurat, called *Le déménagement du peintre*.

1311. TARDIOR UMBRA FLUIT, CUM VOS AD SERIA TEMPUS
ALLIGAT, ET BREVIOR, CUM DATUR HORA JOCIS.

Too slowly glides the shadow, when the time constrains thee to be grave : too quickly flies the hour that is given to merriment.

On the court of the College at Avalion (Yonne).

1312. TE DEPRECAMUR VESPERE : ULTIMA TIME. *To thee we pray at eventide : fear the end.*

On a west dial on a country house belonging to the Comte de Boulancy, near Noyon (Oise), which was formerly the dwelling of the Abbot of the Chartreuse of Mont Renaud.

1313. TE MANE LAUDAMUS CARMINE : ULTIMA LATET. *At morn we sing Thy praise : the end is hid.*

On an east dial on the Comte de Boulancy's house, facing the one described above.

1314. TE MONET HORA FUGAX, TE MONET IPSE LOCUS. *The fleeting hour, the very spot, warn thee alike.*

In the Cimetière des Innocents, Paris. Formerly the inscription ran : IDEM MONET HORA LOCUSQUE (*The hour and the place warn thee alike*), but when the dial was repaired the present version was substituted.

1315. TE NON VIDENS SERVIRE NEQVEO.
pro memoria servio F. N. N. 1698.
If I see thee not, I cannot serve thee.

On a small honestone dial sold in London.

1316. TEGO QUOD DETEGO. *I hide what I reveal.*
In the Basses Alpes, place unknown.

1317. TEMPORA COMPUTANTUR. *The time is reckoned.*
On the church at Roybon (Isère).

1318. TEMPORA CUNCTA SUIS VISITANTES DISCITE VOTIS. *You who come to see me, learn all the hours by their prayers.*

On the church of St. Pierre, Saintes, which dates from the fifteenth century. The letters are in Gothic characters.

1319. TEMPORA LABUNTUR MORE FLUENTIS AQUAE. *Like flowing water glides the time.*

At Monastero, near Bormida, North Italy.

1320. TEMPORA LABUNTUR QUAE NOBIS PEREUNT ET IMPUTANTUR.
Time glides by which for us perishes and is reckoned.

On one of the chimneys of Minster Court, Isle of Thanet. The building dates from the twelfth century. The dial was restored and the motto added by J. Swinford, Esq., in 1856. ("Strand Magazine," 1892.)

1321. TEMPORA LABUNTUR, TACITISQUE SENESCIMUS ANNIS,
ET FUGIUNT FRENO NON REMORANTE DIES.
SOLI DEO GLORIA.

1599.

Paulus Reinman, Nurembergæ fac.

*Time glides by, and we age with the silent years,
And our day flies, with no rein to hold it back.
To God alone be glory.*

On an ivory portarium in the British Museum. The lines are from Ovid, "Fasti," 6, 771. Also on a compass dial in the Victoria and Albert Museum. See No. 407. The first line is also on a dial at the old hospital Weekley, Northants. There is a doorway beneath the dial, on which are the words, *What thou doest doe yt yn Faith*, and the date 1611.

1322. TEMPORA MUTANTUR, NOS ET MUTAMUR IN ILLIS. *The times change, and we too change with them.*

On a pillar dial in the garden of Brockhampton Park, near Cheltenham. This well-known line is not classical, but is by Matthew

Borbonius, a Latin poet of the sixteenth century. The true reading of the sentence is, *Omnia mutantur*, etc.

1323. TEMPORA PRÆTEREUNT; NVNC SOL NVNC UMBRA VICISSIM:
PRÆTEREANT; SUPEREST ECCE PERENNIS AMOR.

*Time passes by; now sun now shade in turn:
Let it go by; lo, Love is over all eternal.*

or,

*Time flies, suns rise, and shadows fall,
Let it go by; lo, Love is for ever over all.*

These lines—hexameter and pentameter—are written on a pillar dial with three faces at Old Place, Lindfield, Sussex. They are engraved and gilded above the dials, and also twine round the pillar in black, white, and gold. "Perennis Amor" is illustrated at the top of all by a "Pelican in her piety" with wings outstretched over her young. This topmost group is in bronze. Five capital letters indicate the date of erection, MM—VVC., or 1890. In addition to this pillar dial Mr. Kempe, the owner of Old Place, Lindfield, has placed a vertical dial on the stable, and three window dials in the house.

1324. TEMPORA SIC FUGIUNT PARITER PARITERQUE SEQUUNTUR. *Time follows as time flies.*

From Ovid, *Metam.* xiv. 183. Placed by J. B. Benedictus on a house in Turin, and quoted by him in "De Gnomonium," 1579. The first four words are on a dial by Zarbula at Le Villard-la-Madeleine (Hautes Alpes), dated 1857.

1325. TEMPORA TEMPORE TEMPERA. *Seasonably seize the seasons.*

It is very difficult to reproduce the alliteration of the original. The motto is on the church at Vian, Piedmont, and on a house at Arco, Lago di Garda, dated 1876. The first two words were seen on a portable dial in the Munich Museum, but the third was covered by the handle attached to the dial, and could not be deciphered.

1326. TEMPORE NIMBOSO SECURI SISTITE GRADUM,
UT MIHI SIC VOBIS HORA QUIETIS ERIT.

*In time of clouds stay your step in safety,
As to me, so to you, it will be an hour of rest.*

This pretty and appropriate inscription is placed above a plain dial, south declining west, which is painted on the side wall of an inn near one of the stations on the Mont Cenis railway line, just before reaching St. Michel, and nearly at the foot of the mountain. It will be seen that the word *gradum* does not scan where it stands.

1327. TEMPORE SERVIO. Z. G. F. 1870. *I serve the time.*

At St. Blaise; also at Bouchier (Hautes Alpes), with the same initials and date.

1328. TEMPORI ET AETERNITATE. *For time and for eternity.*

In the Lycée at Grenoble, on the meridian, which was erected in 1673, and repainted in 1755, and again in 1855. It consists of oblique lines traced on the side walls of the vaulting of two flights of stairs. It has been already noticed in chapter xi., p. 168.

1329. TEMPORI PARE. *Obey time.*

Formerly at Park Hill, Oswestry. See No. 988.

1330. TEMPORIS MEMOR MEI, TIBI POSUI MONITOREM.

Christian. 1681. De Whitehouse.

Mindful of my time, I have erected a warning for you.

This inscription is said to have existed on a dial in the churchyard of Kirk Michael, Isle of Man. The dial was horizontal, erected upon a square stone, with a granite shaft below. The motto was engraved upon the south and west sides of the stone, and these are now so much broken away that only the first two letters of each of the first three words remain—*te me me*—on the west side; on the east side are the arms of the Island, *three legs conjoined in the fess point*; and on the north side there is the name *Christian*, which was probably either that of the donor, or the maker. Whitehouse is the name of an estate in the parish where Christian may have lived. The remains of this dial stand close to the entrance of the church, and to the grave of Bishop Wilson. At Maughold there is a dial outside the church gates, erected on a pillar which seems to be part of the shaft of an ancient cross, and on the metal plate is inscribed “*Ev. Christian fecit 1666* ;” whilst on a dial which once stood at Lewaigue House, which is also dated 1666, the name of “*Ewan Christian*” appears as the donor, and “*Edm. Culpeper*” as the maker.

1331. TEMPUS ABIT. *Time passes away.*

On an iron dial plate attached to the wall over the south chancel door of St. Giles' Church, Burnby, near Pocklington, Yorkshire. Probably two hundred years old.

1332. TEMPUS ABIT, RUIT HORA, DIES FUGIT, AVOLAT ANNUS,
VITAQUE VANESCIT: SCILICET UMBRA SUMUS.

TRISTIA CUM LÆTIS MISCENTUR, SOLIBUS UMBRÆ

SIC VITA EST HOMINUM, SIC EST MENSURA DIERUM.

LINEA ET UMBRA DIEM SIGNANT, BREVIS UTRAQUE, VITÆ

INDEX ET GNOMON, QUI LEGIS ISTA, TUÆ.

VITA FUGIT VELUT UMBRA, PER UMBRAS ITUR AD UMBRAS.

Time passes, the hour rushes on, the day flies, the year flies away, life vanishes, surely we are as a shadow.

*Sorrows are mixed with joys, shadows with sunshine,
So is the life of man, so is the measure of our days.*



OLD PLACE, LINDFIELD.

No. 1322.

*The line and shadow mark the day, fleeting both,
Index and gnomon of thy life who seest this.*

Life flies like a shadow; by shadows one passes to the shade.

We owe these lines entitled "In Horologium Sciothericum," to the Rev. W. D. Sweeting, who has also rendered them into English. They are from "Musæ Subsecivæ, seu Poemata Stromata, autore J. D. Cantabridgiensi," 1676. The writer was J. Duport, Professor of Greek at Cambridge, and Dean of Peterborough. The volume is one of quaint Latin and Greek verses.

1333. TEMPUS AD LUCEM DUCIT VERITATEM. *Time brings truth to light.*

Noted by Mr. Howard Hopley, but no place named.

1334. TEMPUS EDAX RERUM. 1834. *Time consumeth all things.*

This phrase from Ovid, Metam. xv. 234, is on a horizontal dial on a pedestal in Easby churchyard, which is picturesquely situated close to the ruined abbey by the side of the river Swale, Yorkshire. It was formerly on the dial at Park Hill (see No. 988); and on Dewsbury Church, with the date 1816; and is also on the porch of Gulval Church, Cornwall, dated 1810. Time is here represented with a scythe and hour-glass, above the dial face. The motto is on St. Mary's Church, Penzance, with No. 1247; on the post office, at Wheddon Cross, in the parish of Cutcombe, Somerset: in the Albert Park, Middlesbrough (see No. 1406); and at Rye with No. 1364. Also on a brass dial made by John Bell, London, 1710. It was at one time on the portal of Strasburg Cathedral with No. 1571. Quarles writes in his "Emblems," 3, Bk. iii.:

"Read on this dial, how the shades devour
My short-lived winter's day; hour eats up hour,
Alas! the total's but from eight to four."

1335. TEMPUS ENIM PROPE EST. *For the time is at hand.*

Seen over a cottage window, but the note of the locality has been lost.

1336. TEMPUS ET IGNIS OMNIA PERDUNT. Ap: 17. 1719. *Time and fire destroy all things.*

On a house in the market-place, Stony Stratford, Bucks.

1337. TEMPUS FUGIT. *Time flies.*

This motto has been very frequently inscribed on dials in Great Britain. It is at Ossington Hall, Notts, on a dial which is figured in a plate of the hall and church as they stood in the time of Charles I. (Thoroton's "Hist. of Notts.") Also at Darley Hall, Derbyshire, where the dial is a double semi-cylinder, the numerals being engraved on the half cylinder, the side of which casts the shadows. Below there is the head of a man reading from an open book on which the motto is written. It is in the Rectory Garden, Handsworth, Yorkshire; at the Corn Mill, Ecclesfield; at Borranhill House, Cumberland, with No.

718; on the Sun-dial Inn, Stroud, with No. 727; at Kirk Braddan, Isle of Man, 1860, with No. 1301. Also in the garden at Buckminster Hall, near Grantham, on a dial plate, dated 1876, which was in 1885 set on a pedestal constructed by Mr. C. Walton; round the capital and base are Nos. 443, 1421.

The same motto is or was on the churches of Easton, Norfolk, marked E. H., 1694; East Horndon, Essex, 1728; St. Mary the Virgin, Wiggenshall, Norfolk, 1748; Withiel, Cornwall; St. Merryn, Cornwall, 1800; Stalham, Norfolk, 1801; Plumstead, Kent, MDCCCXVIII; North Bradley, Wilts; Otterford, Somerset; Holy Cross, Crediton; Ellastone, Derbyshire (see No. 1585); the parish church, Reigate; the Priory Church, Bridlington; Brampton Church, Huntingdonshire; and Bourne Abbey Church, co. Lincoln. The words may be found on a dial mounted on what seems to be the base of an old cross in the churchyard of Astbury, Cheshire; and in Wall Churchyard, Staffordshire. We have not as many examples of the motto abroad as in England, but it has been read at Les Avenièrès (Isère), dated 1804; and La Brillane (Basses Alpes).

1338. TEMPUS FUGIT ADPROPINQUAT ÆTERNITAS. *Time flies, eternity approaches.*

On a country house belonging to M. Crozet, near Marseilles.

1339. TEMPUS FUGIT CAVE TIHI. *Time flies, look to thyself.*

Formerly on the church of Woburn, Bucks, but the dial has been removed.

1340. TEMPUS FUGIT IRREPARABILE. *Time flies, never to be retrieved.*

At Les Avenièrès (Isère).

1341. TEMPUS FUGIT, MEMENTO ÆTERNITAS. *Time flies, remember eternity.*

Ricardus Melville fecit. Glasgow, A.D. 1848.

This Latin motto, if it can be so described, is engraved on the plate of a horizontal dial which stands in the garden of the Royal Hotel, Bridge of Allan, Perthshire. Also at Ruthin Castle, Wales, on a horizontal slate slab, surrounded with eight smaller dials which show the time at various places. They are mounted on a stone pedestal. "Rich^d. Melvin fecit" is on the central plate. All the gnomons have disappeared.

1342. TEMPUS FUGIT, MORS VENIT. *Time flies, death comes.*

With No. 1530, on a pedestal dial in Acton Churchyard, Cheshire; also at Brough, Westmoreland, see No. 1182, and on a stone pillar dial in Matlock Churchyard. The dial at Matlock has been ill-treated, and in 1874 the gnomon had disappeared.

1343. TEMPUS FUGIT, MORS VENIT, NOS UT UMBRA. *Time flies, death comes we (are) as a shadow.*

John Berry fecit. 1762.

Over the porch of Marwood Church, Devon. The "Exeter Daily Gazette," April 29th, 1891, gives an account of this dial and of its maker, John Berry, a mason who lived at Muddiford in the parish of Marwood, and died February 20th, 1790, aged seventy-three. He is still remembered, as the local masons trace their skill through two or three generations back to him. His sun-dials may be seen over the church porches in the neighbourhood, and in the gardens of private houses. The Marwood dial has one curious feature. The style carries a needle placed about four inches from its upper extremity, and by its shadow shows the position of the sun in the zodiac. The signs of the zodiac are shown on the dial, and also the hour of noon at Vienna, Berlin, Jerusalem, and other places.

1344. TEMPUS FUGIT PER UMBRA (M). *Time flies by the shadow.*

Runell Casson fecit, 1727. Thomas Hutton.

In the churchyard of Cartmel, Lancashire. A previous dial evidently existed here, as the following entry appears in the transactions of "Twenty-four sworn men," in connection with Cartmel Priory church: "1630: Paid, It^m for setting up the Sunne Dyell iij^s vj^d."

1345. TEMPUS FUGIT UT UMBRA. *Time flies as a shadow.*

On Bradfield Church, Yorkshire, with No. 992.

1346. TEMPUS FUGIT VIA. *Time flies on its way.*

This motto, remarkable for the barbarity of its Latin, was seen some years ago on Haydor, or Heydour Church, co. Lincoln.

1347. TEMPUS LABANTUR.

Formerly on the old Custom House at Ipswich, but both building and dial have been taken away. Evidently *labantur* is a corruption of *labitur*, meaning *Time glides away*.

1348. TEMPUS LABILE. *Gliding time.*

This is on a dial, facing south, over the kitchen-garden door at Esholt Hall, near Leeds. There was originally a nunnery at "Esteholt," as Dugdale writes it, which was a cell to Sinningthwait, and of the Cistercian order. Pope Alexander III. took this nunnery into his protection in 1172. The present hall was built in the early part of the last century by Sir Walter Calverley, Bart., and in 1754-5 it was sold to Robert Stansfield, Esq., to whose representative it now belongs. The same motto is on an old, nicely-carved stone dial, which is fixed against the front of a cottage house in Bishopthorpe, near York; and below is a small, apparently marble slab, let into the wall, with the date 1691. They have possibly no connection with each other, and may be relics of some former archiepiscopal buildings.

1349. TEMPUS OBIT, MORS VENIT. *Time dies, death comes.*

On the west side of a Manx dial at Barnes Lodge, King's Langley, with other mottoes. See Nos. 161, 788.

1350. TEMPUS OMNIA REVELAT. *Time discloses all things.*

On a chapel at Yeadon, Yorkshire.

1351. TEMPUS OMNIUM PARENS. *Time the parent of all things.*

At Park Hill, Oswestry. See No. 988.

1352. TEMPUS ORANDI ET MEMORANDI NOVISSIMA. (sic) *'Tis time to pray and think upon thine end.*

On the Church, Mont-de-Lans (Isère).

1353. TEMPUS SICUT UMBRA. *Time is as a shadow.*

On the fortification walls at Concarneau (Finistère).

1354. TEMPUS TERIT OMNIA. *Time wears away all things.*

On an ivory portarium in the Nuremberg Museum.

1355. TEMPUS UT UMBRA PRÆTERIT. *Time passes by as a shadow.*

At Brougham Hall. See No. 875.

1356. TEMPUS VELUT UMBRA PRÆTERIT. Eccles. vii. 1. *Time passes as a shadow.*

Given in "Notizie Gnomoniche."

1357. TEMPUS VINCIT ET DIRIGIT OMNIA. An°. 1773. *Time conquers and rules everything.*

Over the front door of one of the Masters' houses at St. Paul's College, Stony Stratford, Bucks. The last two words are contracted on the dial.

1358. TEMPUS VITÆ MONITOR. *Time the warning of life.*

Over the south porch of St. Peter's Church, Wolverhampton. Also with No. 443, at Charlesfield, Midlothian; this dial was taken from Warwickshire to Scotland in 1892. It is supposed to have been made about 1770.

1359. 1. TENDIMUS UNA. 2. NIL SINE TE.
 We advance together. *Nothing without thee.*
 3. ET LUMINE ET UMBRA.
 By light and shade.

Given in "Notizie Gnomoniche."

1360. TENERE NON POTES, POTES NON PERDERE DIEM. *You can avoid wasting a day, although you cannot hold it.*

At Ripley, Surrey, with other mottoes. See No. 1002.

1361. TENET NOS VOSQUE VOCAT. J. Silau, 1812. *Us it holds, you it calls.*

On the church near the cemetery at Réaumont (Isère).

1362. TERRAS LUMINE SPARGIT. 1800. *He scatters light upon the earth.*

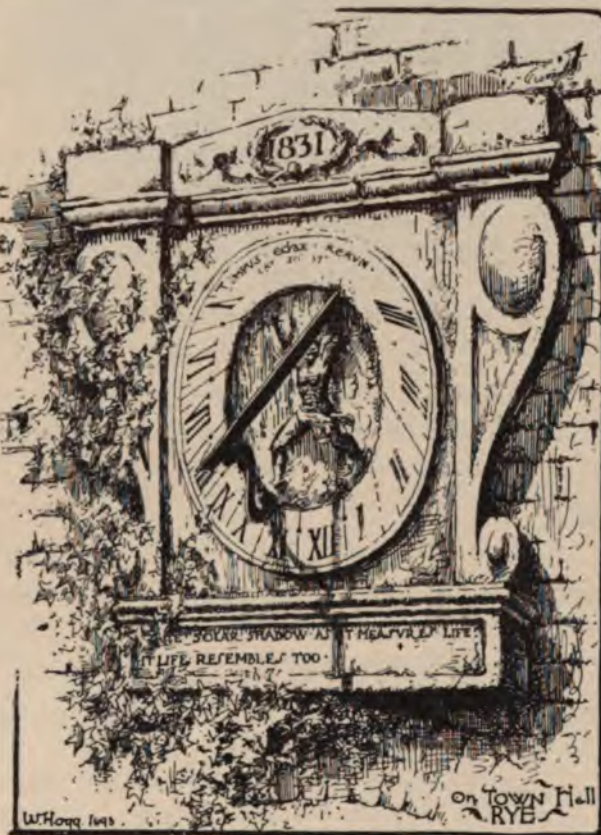
Near the railway station, L'Albenc (Isère).

1363. TESTIMONIUM VERITATI PERHIBET. *He bears witness unto the truth.*

Formerly in the cloister of the Célestin Convent, Paris.

1364. THAT SOLAR SHADOW, AS IT MEASURES LIFE,
IT LIFE RESEMBLES TOO.

With No. 1334 on a vertical dial which used to be on the front of the Grammar School at Rye. The centre of the plate shows a sculptured figure of Time with his scythe. The building was erected in 1636. The dial was presented to the school by Colonel Sir De Lacy Evans when he was one of the representatives of the borough in Parliament, and it remained upon the school until 1887, when the building was re-pointed, and new windows were put in to commemorate the Queen's Jubilee. It was then found that the dial obscured one of the windows, so it was removed and placed upon the Town Hall. The motto is from Young's "Night Thoughts," Night II. Compare No. 121.



THE GRAMMAR SCHOOL, RYE.

1365. THE DAY IS THINE. 1790 1880.

On Market Deeping Church, Northamptonshire. The dial is on the south wall of the tower; and there is a second dial on the north wall with No. 1383.

1366. THE EARTH IS THE LORD'S AND THE FULNESS THEREOF.

In the Albert Park, Middlesbrough. See No. 1406.

1367. THE GLORY OF THE WORLD PASSETH.

Paul Quick fecit 1737.

On Zennor Church, Cornwall. The dial is of bronze, and bears the

figure of a mermaid, the "mermaid of Zennor," with whom, according to the legend, the squire's son fell in love. The mermaid allured him to the sea, and he was seen no more. The mermaid is also introduced into the carving of one of the old oak bench ends in the church.

1368. THE GREATER LIGHT TO RULE THE DAY (Gen. i. 16).

On a remarkable dial formerly on the church of St. Mary le Tower, Ipswich. It was of large size, and filled the whole space of a window within an arch which had apparently been plastered up to admit of the dial being placed there. On the dial face were painted the twelve signs of the zodiac in colours. Below, at the left-hand corner, there was a figure of Atlas bearing the terrestrial globe on his shoulders, and on the right, Science regarding the celestial globe; above, at the left-hand corner, Time, with his scythe and hour-glass, and at the right, Death. This dial was removed about 1860, and cannot now be traced. It probably dated from the eighteenth century. The same text is on Copdock Church, Suffolk. On the tower of Thorp Arch Church, Yorkshire, there is a square stone dial inscribed, "1 Gen. 16," which is no doubt intended to refer the spectator to the same text.

1369. THE HOUR COMETH. A.D. 1826.

On the porch of Saxthorpe Church, Norfolk. The dial was put up in 1826 by Lieutenant Davis, R.N.

1370. THE HOUR IS AT HAND.

At Harlston, Northants.

1371. THE HOUR IS COMING IN THE WHICH ALL THAT ARE IN THE GRAVES SHALL HEAR HIS VOICE. M DCCC XXX III. St. John, v. 28.

In the churchyard at Stretton, Cheshire.

1372. THE HOUR IS SHOWN ON OTHER DIALS BUT WHEN THE SUN DOTII SHINE,

THEY HAVE A STYLE PROJECTING WHOSE SHADOW CASTS A LINE;
BUT ALWAYS WHETHER SUN DOTI SHINE OR WHETHER CLOUDS
DO LOWER,

ONE OF MY HANDS WILL NEVER FAIL TO POINT TO THE TRUE HOUR.

On a mock dial at an old inn in Somersetshire. There are four hands figured, each having three hours opposite to it, so that one of the hands is always pointing to the right hour ("Birmingham Weekly Mercury").

**1373. THE HOUR NOW SHOWN PERHAPS MAY BE THY LAST,
REPENT AND PRAY BEFORE THAT HOUR BE PAST.**

1733 ex dono Johannis Wilder.

On a horizontal dial in Sulham Churchyard, Berks.

**1374. THE HOURS ARE GRAVEN ROUND THE CROSS'S SIDES,
AND ON THEM ALL IN TURN A SHADOW GLIDES;**

IF THE SUN SHINES, AND DRAWS A LINE, REDEEM
 THE TIME, FOR LO ! IT PASSES LIKE A DREAM ;
 BUT IF THE LINE BE ABSENT, MARK THE LOSS
 OF HOURS NOT RULED BY SHADOWS FROM THE CROSS.

These lines were written by the Rev. R. W. Essington, and engraved on a cross dial which he has erected at his present home, Plen, New-quay, Cornwall. The dial stands on a pedestal formed from an old stone roller. The stanza is similar to that which Mr. Essington inscribed on his cross dial at Shenstone (see No. 474), but he altered it in order to explain how the hour lines are thrown by the shadows of the cross.

1375.

THE HOURS PART US,
 BUT THEY BRING US TOGETHER AGAIN.

This motto was devised by the late Juliana Horatia Ewing, with the intention of placing it on a sun-dial which she and her husband offered to erect, as a parting gift, upon the Mess Hut of the Royal Engineers, South Camp, Aldershot, 1877, "In grateful record of happy hours spent there." The dial was not erected, however, as another offering was preferred in its place, but the motto is inserted here as an illustration of one of the lessons which the deviser learnt from the shifting scenes of life amongst which she lived for seven years in Aldershot Camp. The same thought was more fully set forth in her "Story of a Short Life" (p. 75). "True to its character as an emblem of human life, the Camp stands on, with all its little manners and customs, whilst the men who garrison it pass rapidly away. Strange as the vicissitudes of a whole generation elsewhere, are the changes and chances that a few years bring to those who were stationed there together. To what unforeseen celebrity (or to a dropping out of one's life and even hearsay, that once seemed quite as little likely) do one's old neighbours sometimes come! They seem to pass in a few dull seasons as other men pass by lifetimes. Some to foolishness and forgetfulness, and some to fame. This old acquaintance to unexpected glory; that dear friend—alas!—to the grave. And some—God speed them!—to the world's end and back, following the drum till it leads them home again, with familiar faces little changed—with boys and girls, perchance, very greatly changed—and with hearts not changed at all. Can the last parting do much to hurt such friendships between good souls who have so long learnt to say farewell; to love in absence, to trust through silence, and to have faith in reunion?"

1376.

THE HOURS, UNLESS THE HOURS BE BRIGHT,
 IT IS NOT MINE TO MARK :
 I AM THE PROPHET OF THE LIGHT,
 DUMB WHEN THE SUN IS DARK.

Written by the late W. H. Hyett, Esq., and placed with the Latin

motto of which it is a translation, on a dial at Painswick House, Gloucestershire (see No. 444).

1377. THE LAST HOUR TO MANY, POSSIBLY TO YOU.

On the church at Hartlepool, co. Durham.

1378. THE LORD BY WISDOM HATH FOUNDED THE EARTH;
BY UNDERSTANDING HATH HE ESTABLISHED THE HEAVENS
Prov. iii. 19.

In the Albert Park, Middlesbrough. See No. 1406.

1379. THE LOVE IS TRUE; THAT I O V:
AS TRUE TO ME; THEN C. V. B.

On the exterior of a ring dial, which is an inch and a half in diameter. The initial letters of the twelve months are also engraved on the exterior: the numerals of the hours are within. The present owner of this dial is not known.

1380. THE MOMENT PAST
LAID MANY FAST.

At Dennington, Suffolk. See No. 760.

1381. THE MORNING COMETH, AND ALSO THE NIGHT.

In the Albert Park, Middlesbrough. See No. 1406.

1382. THE NATURAL CLOCKWORK BY THE MIGHTY ONE
WOUND UP AT FIRST, AND EVER SINCE HAS GONE;
NO PIN DROPS OUT, ITS WHEELS AND SPRINGS ARE GOOD,
IT SPEAKS ITS MAKER'S PRAISE THO' ONCE IT STOOD;
BUT THAT WAS BY THE ORDER OF THE WORKMAN'S POWER;
AND WHEN IT STANDS AGAIN IT GOES NO MORE.

JOHN ROBINSON, RECTOR, A. DOUGLASS, CLERK FECIT, A.D. 1773. THOMAS SMITH,
SAMUEL STEVENSON, CHURCHWARDENS. SEAHAM IN LATITUDE 54D. 51M.

On the south porch of Seaham Church, co. Durham. The motto is above the dial, and is cut in a stone of ungainly shape.

1383. THE NIGHT COMETH.

On Barnes Church, Surrey; on Market Deeping Church, Northants, with No. 1365; and on a vertical dial of slate, made in 1892 by F. Barker and Son, for Sir Walter Besant, at Frognal End, Hampstead. The text was formerly on Melsonby Church, Yorkshire, dated 1800, but the dial has been removed.

1384. THE PASSING SHADOWS WHICH THE SUNBEAMS THROW
ATHWART THIS CROSS, TIME'S HASTENING FOOTSTEPS SHOW;
WARNED BY THEIR TEACHING WORK ERE DAY BE O'ER,
SOON COMES THE NIGHT WHEN MAN CAN WORK NO MORE.

On the plate of a cross sun-dial which stands on a stone pedestal upon the terrace of the hospital of St. Cross, Rugby. The building was erected in 1882, chiefly by the liberality of R. H. Wood, Esq., and his wife. There are mottoes in the wards and over some of the door-

ways; that over the porch is "Deus nobis haec otia fecit—anno salutis 1882." Over the out-patients' entrance is one which is often used as a dial motto, "Post tenebras spero lucem." The lines on the cross dial were written by R. E. Egerton-Warburton, Esq. See No. 715. The dial was designed by the late Henry Wilson, Esq., of Gray's Inn Square, London, who was the architect of the hospital, and he selected the fine old characters in which the lines of the motto are engraved.

1385. THE SMALL AND THE GREAT ARE THERE: AND THE SERVANT IS FREE FROM HIS MASTER. Job, iii. 19.

One of four mottoes on the dial at the gateway of St. Patrick's Church, Patrick, Isle of Man. See No. 864.

1386. THE SUN RIDES POST, TIME FLYS AWAY,
AND HOURS LOST ARE LOST FOR AYE.

On a ring dial. See "Proceedings of the Society of Antiquaries," February, 1894.

1387. THE SUN SHALL NOT SMITE THEE BY DAY, NOR THE MOON BY NIGHT. Psalm cxxi. 6.

On one side of a stone cube, which bears a dial on the opposite side. This formerly stood on a pedestal, crowned with a stone ball, at Birnie, Morayshire. The cube is now in the possession of Mr. Muil, at Strypes, near Elgin.

1388. THE SUNLIT DIAL SHOWS
THE FLEETING HOURS OF DAY,
THE CROSS BETOKENETH THOSE
WHICH NEVER PASS AWAY.

Composed by R. E. Egerton-Warburton, Esq., for a dial on a church at Warburton, Cheshire.

1389. THE TIME IS AT HAND.

Noticed in the "Gentleman's Magazine," November, 1765; no locality given.

1390. THE TIME IS SHORT. 1 Cor. vii. 24.

Placed in 1882 on the church of Kilnwick, Yorkshire. See No. 355.

1391. THEO PHYLACTEUS.
JACTURA TEMPORIS IRREPARABILIS,
ET NIHIL TEMPORE PRETIOSIUS.

*Under God's protection.
Wasted time cannot be recovered,
And nothing is more valuable than time.*

On an engraving of a dial in Franz Ritter's "Speculum Solis" (Nuremberg, 1652).

1392. ΘΕΟΣ, DEUS, GOD.

On the south-west corner of John Knox's house in Edinburgh there is a curious piece of sculpture consisting of a man's figure



JOHN KNOX'S HOUSE, EDINBURGH.

kneeling on a stone base, on the sides of which are two sun-dials. The figure is that of Moses, who is represented as holding in one hand a tablet, whilst with the other he points towards a carved sun on the wall behind him. In the centre of this sun the Name of God is inscribed in three languages. This projection, with the figure, has been popularly called John Knox's pulpit. Beside the stone there is a coat-of-arms and the initials, I. M. M. A., the arms of James Mossman and his wife Marriota Ares. James Mossman is known to have owned a tenement in the Netherbow before 1573.

1393. ΘΕΟΣ ΓΕΩΜΕΤΡΕΙ. *God measures the earth.*

This motto is taken from the saying attributed to Plato, "The God always geometrises," ὁ Θεὸς ἀεὶ γεωμετρεῖ. See Plat. Sym., viii. 2. It was with other inscriptions (see Nos. 740, 1657) on a dial on Hadleigh Church, Suffolk, but in 1858 the dial, which bore the date 1627, was removed.

Milton thus describes the son of God employed in the works of Creation :

" In his hand
He took the golden compasses, prepared
In God's eternal store, to circumscribe
The Universe, and all created things :
One foot He centred, and the other turned
Round through the vast profundity obscure,
And said : Thus far extend, thus far thy bounds,
This be thy just circumference, O world !"

Milton's conception was derived from Proverbs, viii. 27 : "When He prepared the heaven, I was there, when He set a compass upon the face of the deep."

1394.

THESE SHADES DO FLEET
FROM DAY TO DAY :

AND SO THIS LIFE
PASSETH AVVAIE.

In front of Marrington Hall, Shropshire, on the lawn, is a curious old four-sided dial, thus inscribed round the pillar. It is coeval with the house, and dated 1595. The shaft of the dial is set in a solid square stone at the base, round the chamfer of which runs the legend :

FOR CHARITI BID ME ADW (ADIEU ?) WHO WROUGHT THIS STONE FOR
THEE TOMB OF R L L.

These letters are the initials of Richard Lloyd. On the sides of the shafts are various heraldic bearings, emblems, and devices—the arrow, death's head, cross bones, oak branches, two serpents intertwined, a plant in a pot, an owl on an oak branch, etc., mingled in arrangement, and showing the arms of families who have owned the property. Amongst these are those of Newton, to which family it is believed that Sir Isaac Newton belonged. In out-of-the-way corners of the stone there are many dials curiously inserted. The other inscriptions are Nos. 188, 315, 347, 1530. The dial seems to be the sepulchral monument of Richard Lloyd, either erected during his lifetime or placed over his remains. Amongst the devices before mentioned, there is an effigy of Richard Lloyd.

1395. THEY ALSO SERVE WHO ONLY STAND AND WAIT.

This—the concluding line of Milton's Sonnet on his own blindness—was placed by J. J. Freeman, Esq., upon a pedestal dial which he caused to be erected in the garden in front of Halliford House, Halliford-on-Thames, in 1889.

1396. THIS FOURFOLD INDEX OF SWIFT TIME
ON WHICH $\frac{x}{y}$ SHADOW VEERETH ROUND,
SHOULD MAN EXCITE TO THEMES SUBLIME,
SINCE NOU^T BUT SHADOWS HERE ARE FOUND.

Made for Saddlebow, whose Lat. is 54 : 45.

A solid block of stone, bearing three dials on the sides, and one on the top, now stands, mounted on steps, in the garden of Thorp Perrow, Yorkshire. It was formerly at a farmhouse called Saddlebow, in Lunsdale, and was bought by the late Sir Frederick Milbank, Bart., and set up first at Wemmergill Lodge, and afterwards at Thorp Perrow. These lines and other mottoes (Nos. 248, 1530, 1541) and the date 1747 are all carved in the stone.

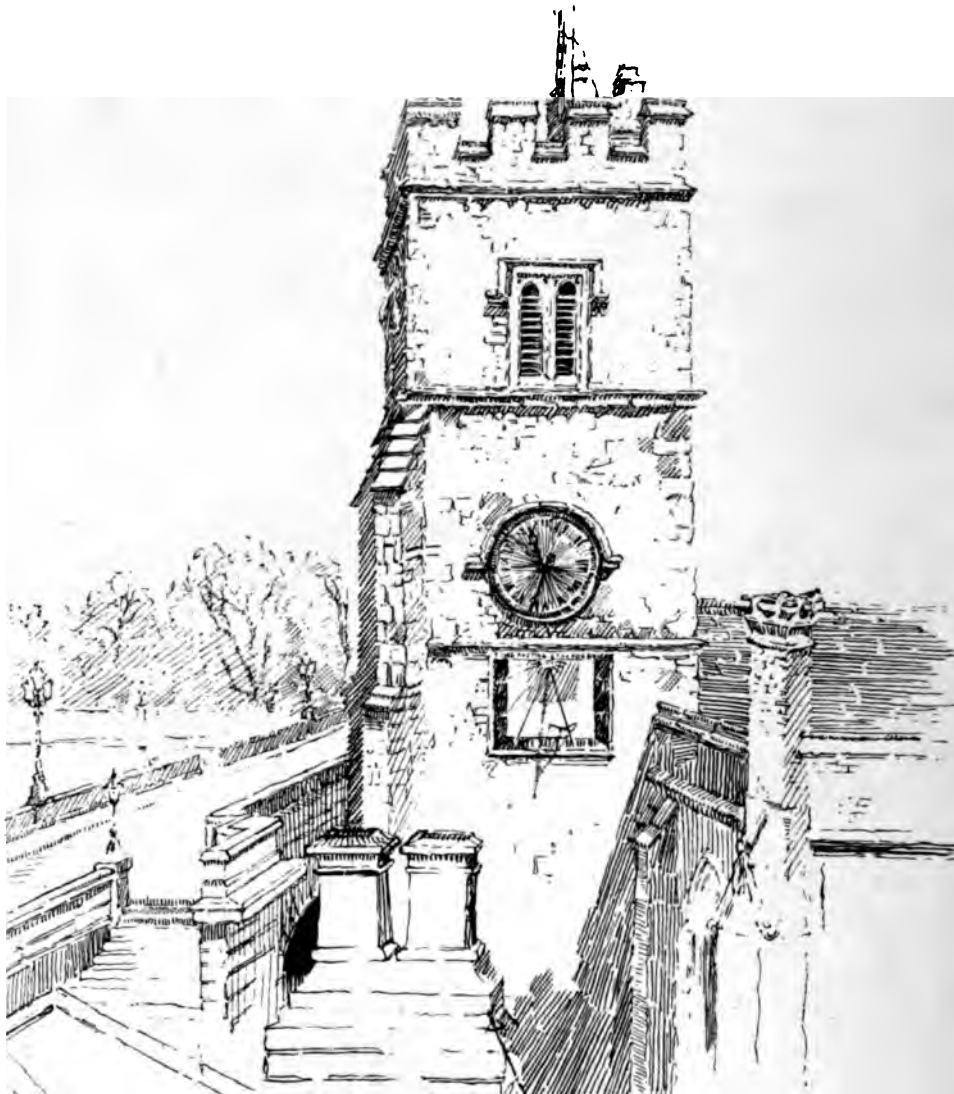


THORP PERROW, YORKSHIRE.

1397. THOU BY THY DIAL'S SHADY STEALTH MAY'ST KNOW
TIME'S THIEVISH PROGRESS TO ETERNITY.

(SHAKESPEARE, Sonnet 77.)

On a pedestal dial which formerly stood at Buxton Vicarage, Norfolk, but was given away by the late vicar, Rev. W. J. Stracey, when



ST. MARY'S CHURCH, PUTNEY.

he quitted the living. The dial was designed by the Rev. Campbell Wodehouse, and was given to Mr. Stracey as a memorial of him. The pedestal was of stone, and bore a device on each side: a Cock to represent Morning; an Owl for Night; a Scythe for Time; and a Serpent

in a ring for Eternity. The same motto was on a dial erected by Lord Cranworth, at Holwood, in the parish of Keston, but it was removed in 1884.

1398. THUS ETERNITY APPROACHETH. C. HOLDEN. 1766.

Over the south porch of the church of St. John the Baptist, Pilling. The Rev. C. Holden, a well-known mathematician, was incumbent when the dial was erected; and the portrait of a man in clerical costume, which was painted in one corner of the dial face, no doubt was meant to represent Mr. Holden.

1399. THUS THE GLORY OF THE WORLD PASSES AWAY. 1807.

Over the door of the church at Willerby, near Scarborough.

1400. THY DAYS ARE LIKE A SHADOW THAT DECLINETH.

On St. Madron's Church, near Penzance. The words are almost those of Psalm cii. 11.

1401. TIBI SIT ULTIMA COELO. *May thy end be in heaven.*

On the belfry tower of St. Paterne, Orleans.

1402. TIME AND SHADOWES PASS AWAYE.
GOD AND LOVE MAKE SURE
Y^e BETTERE DAY.

In a paper on "Consolations in a Garden," published in "The Lady's Realm," 1896, the Duchess of Somerset describes a dial with the above motto, but we have authority for saying that the description was imaginary.

1403. TIME AND TIDE STAY FOR NO MAN.

On the tower of St. Mary's Church, Putney, close to the Thames. In 1756 the same motto was on a dial at the Steelyard, London, which also faced the river.

1404. TIME AND TIDE TARRY FOR NO MAN.

This motto is on a dial in Brick Court, Middle Temple, which has been restored, and replaced on the new buildings. The dates on the Temple dials are altered every time they are repainted, so are no guide to the time of their first erection. Probably they belong to the eighteenth century, and may have been seen by Goldsmith, who bought chambers in Brick Court for £400, and died there in 1774. The Templars' device of the Holy Lamb and staff or flag with a red cross is on all the dials. The motto may be read with reference to the time when the lawyers went from their chambers to the courts at Westminster by boat, and the favouring tide in the river was an important element in conveying them in time for business. The same inscription on a large vertical dial was formerly to be seen in the hall of New Inn, Wych Street, but the dial has long been removed. It was also on one of the two dials on Nonsuch House, one of the most curious and

picturesque buildings of old London Bridge. These dials are said to have been put up in 1681, in the mayoralty of Sir Patience Ward. The houses on London Bridge were taken down in 1757; and the bridge was destroyed by fire in the following year.

The above motto, with eight others, was on Prince Albert Victor's dial at the Edinburgh Exhibition in 1886.

1405. TIME AS HE PASSES US, HAS A DOVE'S WING,
UNSOILED AND SWIFT, AND OF A SILKEN SOUND.

On Prince Albert Victor's dial at the Edinburgh Exhibition (see No. 1306). The lines are taken from Cowper's "Task," Book iv.

1406. TIME BY MOMENTS STEALS AWAY, FIRST THE HOUR AND THEN THE DAY.

HOW GRAND THE ORBS OF LIGHT ON HIGH,
WITH ALL THE BLUE ETHEREAL SKY,
AND SPANGLED HEAVENS A SHINING FRAME,
THEIR GREAT ORIGINAL PROCLAIM!
IN REASON'S EAR THEY ALL REJOICE,
AND UTTER FORTH A GLORIOUS VOICE,
FOR EVER SINGING AS THEY SHINE
"THE HAND THAT MADE US IS DIVINE."

This motto with six others, and the eight lines from Addison's paraphrase of Psalm xix., are engraved upon the face of a vertical south dial, erected in the Albert Park, Middlesbrough, by the gift of H. W. F. Bolckow, M.P. The design and workmanship were done by Mr. John Smith, of South Stockton, who was seventy years of age when he made it, but had been deeply interested in the art of dialing from his boyhood.¹ He was born at Bielby, near Pocklington, Yorkshire, in 1807, and brought up as a farmer, but his taste for mechanical art was so strong, that by the time he was eighteen he had made a wooden sun-dial which indicated the time both in England and New York, and erected it in his father's garden. In 1830 he constructed a pedometer or cyclometer which was fastened to a waggon and showed the number of miles that the cart traversed. It is thus described in the "London Mechanic's Magazine:" "It is a species of clockwork . . . and receives its motion from one of the hind wheels. It has two pointers attached to it, one of which revolves round in one mile, and the other in thirty-six miles, and a hammer strikes at every revolution of the former. The dial-plate is also ornamented with a diagram of the heavens, representing the earth and moon revolving round the sun."

Mr. Smith constructed other sun-dials, one of which has been already noticed (see No. 1259). On a horizontal one, which he called his "Art Sun-dial," are the same mottoes as those on the Middlesbrough dial, and in addition the questions, "What is Deity? What is Eternity?" which are answered by the following inscription

¹ See *ante*, chap. ix., p. 137.

round the margin of the plate: "Deity is the King Eternal, Immortal, Invisible, the only Wise God our Saviour. Eternity is endless duration. Reader, that God will be thy Judge and Eternity thy portion, Prepare in time and be for ever blest."

This art sun-dial can be obtained from Messrs. Craig and Mackenzie, Stockton-on-Tees.

In the year 1873 Alderman Matthew Smith (afterwards Mayor) presented a large dial to the People's Park at Halifax. It was constructed by Mr. John Smith, and bears the first four mottoes which are on the Middlesbrough dial. Mr. Smith died at South Stockton in 1895.

1407. TIME CAN DO MUCH. 1777.

On a dial in the garden of Leventhorpe Hall, near Leeds.

1408. TIME FLIES. 1781.

On a white house near the wall of the sea at Hartlepool. In the sixth book of Wordsworth's "Excursion" there is a pleasant episode showing how two political opponents, "flaming Jacobite and sullen Hanoverian," used to meet and discuss in "The churchyard among the mountains;" and finally agreed to lie after death in one spot to be marked by a dial, bearing an inscription "in Latin numbers couched" These lines the poet rendered as below:

TIME FLIES; IT IS HIS MELANCHOLY TASK
TO BRING, AND BEAR AWAY, DELUSIVE HOPES,
AND REPRODUCE THE TROUBLE HE DESTROYS.
BUT, WHILE HIS BLINDNESS THUS IS OCCUPIED,
DISCERNING MORTAL! DO THOU SERVE THE WILL
OF TIME'S ETERNAL MASTER, AND THAT PEACE
WHICH THE WORLD WANTS, SHALL BE FOR THEE CONFIRMED.

"Tyme flys" is engraved on the gnomon of a portable box dial, belonging to Col. Baldwin of Dalton in Furness, and was shown at the Archæological Society meeting November, 1890. It is a brass octagonal plate $3\frac{1}{2}$ inches long by $2\frac{3}{8}$ inches broad, with a compass below, and is engraved with the maker's name, "Phil. Ballock fecit."

1409. TIME FLIES, DEATH HASTES, A MOMENT MAY BE WISHED
WHEN WORLDS WANT WEALTH TO BUY.

On a house at Newlyn St. Peter, near Penzance. The lines have been adapted from Young's "Night Thoughts," Night ii., lines 292, and 306, 307:

"Time flies, death urges, knells call,
Heaven invites:"
"A moment we may wish
When worlds want wealth to buy."

1410. TIME FLYES, DEATH APPROACHETH.

Formerly on the wall of a paper mill in the parish of Woburn, Bucks.

1411. TIME FROM THE CHURCH TOWER CRIES TO YOU AND ME.
 UPON THIS MOMENT HANGS ETERNITY :
 THE DIAL'S INDEX AND THE BELFRY'S CHIME
 TO EYE AND EAR CONFIRM THIS TRUTH OF TIME.
 PREPARE TO MEET IT ; DEATH WILL NOT DELAY ;
 TAKE THEN THY SAVIOUR'S WARNING—WATCH AND PRAY !

These lines, by James Montgomery, were, in 1883, placed beneath a vertical dial which replaced an old one without motto, on Robinson's



ROBINSON'S HOSPITAL, NEAR BURNESTON CHURCH.

Hospital, or Alms-houses, at Burneston, Yorkshire. The hospital, founded in 1680, is separated only by a road from the churchyard, and lies almost under the shadow of the belfry. The dial was put up by G. J. Serjeantson, Esq.

1412. TIME IS THE
 CHRYSALIS OF ETER-
 NITY.

On Prince Albert Victor's dial at the Edinburgh Exhibition, 1886. See No. 1306.

1413. TIME IS MORE
 SACRED THAN GOLD.
 1786.

Over a cottage

door in the village of Kirk Leavington, Yorkshire.

1414. TIME IS ON THE WING, AND THE MOMENTS OF LIFE ARE TOO
 PRECIOUS TO BE SQUANDERED AWAY ON TRIFLES.

At Hesketh, Lancashire, with No. 31.

1415. TIME'S ON THE WING
 DEATH'S APPROACHING
 THE HOUR'S UNCERTAIN.

On the church, Botus Fleming, Cornwall.

1416. TIME IS THE MONITOR OF LIFE.

Over the south porch of Welbury church, Yorkshire.

1417. TIME IS, THOU HAST : SEE THAT THOU WELL EMPLOY ;
 TIME PAST IS GONE : THOU CANST NOT THAT ENJOY.
 TIME FUTURE IS NOT, AND MAY NEVER BE ;
 TIME PRESENT IS THE ONLY TIME FOR THEE.

Over the door of a schoolmaster's house at Leyburn, Yorkshire.
 Another version gives the first two lines thus :

"Time was, is past : thou canst not it recall ;
 Time is, thou hast : employ the portion small."

1418. TIME PASSETH.

Over the church porch at Somersby, co. Lincoln, the parish where Lord Tennyson's father was rector, and where the poet himself was born.

1419. TIME PASSETH AWAY LIKE A SHADOW.

With No. 36 in a garden at Dorking ; on Isleworth church, with No. 1631 ; it is on the porch of East Bergholt church, Suffolk ; and can be seen in Constable's picture of the church porch, now in the National Gallery (East Anglian, N.S., 3, 136).

1420. TIME'S GLASS AND SCYTHE
 THY LIFE AND DEATH DECLARE ;
 SPEED WELL THY TIME,
 AND FOR THY END PREPARE.

Suggested as a dial motto by Mr. W. Osmond, of Salisbury.

1421. TIME STEALS AWAY : THE HOUR FLIES : SLOW BUT SURE : I STAY
 FOR NO MAN.

Round the capital of a small pedestal dial in the garden of Buckminster Hall near Grantham. On the dial plate and base of the shaft are other mottoes. See Nos. 443, 1337.

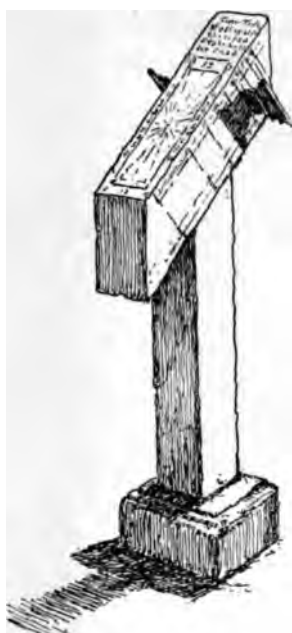
1422. TIME THE DEVOURER OF ALL THINGS.

On a dial made by H. Bon, 1689, seen in a shop in London.

1423. TIME TIDE
 DOTTH WAIST
 THEREFORE
 MAKE HASTE
 WE SHALL—

On a dial which originally stood in the garden at Carville Hall, the teaching of the motto being enforced by the position of the house, which stands midway between Newcastle and the sea, overlooking the Tyne. Carville Hall is now the property of J. Wigham Richardson, Esq., and he has presented the dial to the members of the Newcastle

Society of Antiquaries, who have placed it upon the roof of the Norman keep of the Castle. The following description of the dial has been given by the Rev. J. R. Boyle : "The dial stone is an oblong slab, two sides of which are parallelograms, and two are rhomboids. This rests



NORMAN KEEP,
NEWCASTLE-ON-TYNE.

upon an upright pillar. The dial slab lies in the plane of the earth's equator. On its upper surface is a north polar dial, which will show the time from the vernal to the autumnal equinox. On its under surface is a south polar dial, which will show the time from the autumnal to the vernal equinox. On the vertical sides of the dial are four erect direct dials, facing exactly the four quarters of the earth. The dials are all graduated to half hours. I have placed the dial in the meridian of the castle of Newcastle. It will therefore show, when the equations of time are applied, not Greenwich, but local time. On the north side of the stone is a shield bearing *two bends and a crescent for difference, impaling, ermine, a chevron engrailed.*" The latter are the arms of John Cosyn, who built Carville Hall, and died in 1662. He was buried at All Saints, Newcastle. The Hall is also called Cosyns House. The date 1667 is engraved on the pillar of the dial, and it was probably erected by John Cosyn's son-in-law, to whom the coat-of-arms evidently belonged. The motto is placed just above the north polar dial; the word "dial" being, of course, required to complete the sense of the inscription.

1424.

TIME TRIES ALL.
CN. GC. 1890.

On a horizontal dial made by F. Barker and Son, London.

1425. TIME WASTED IS EXISTENCE, USED IS LIFE. 1828.

These lines from Young's "Night Thoughts" (Night II) are over the porch of the church at Hutton-Buscel, Yorkshire. The same idea is expressed by Herrick.

"Long have I *lasted* in this world 'tis true,
But yet these years that I have *lived*, but few.
Who by his grey hairs doth his lustres tell,
Lives not those years, but that he lives them well.
He lives, who lives to virtue, men who cast
Their lives to pleasure do not *live* but *last*."

1426.

TIME WASTES OUR BODIES AND OUR WITS,
BUT WE WASTE TIME AND SO WE'RE QUIT.

These lines, altered to fit the size of the stone, are on a vertical dial placed, in 1880, on the farm buildings at Camphill, Yorkshire, by

G. J. Serjeantson, Esq. The couplet was written by Dr. Roget and is called "The Retaliation."

"Time wastes us all, our bodies and our wits,
But we waste Time, so Time and we are quits."

The old proverb, "A stitch in time saves nine," is cut on the same dial.

1427. TIME WILL SHOW.

On a house at Down, in Kent.

1428. TIMETE DOMINUM QUIA VENIT HORA JUDICII. *Fear God, for the hour of judgment is come.* Rev. xiv. 7.

At Morges, Val d'Aosta.

1429. TIMETE MORTALES. *Fear, ye mortals.*

At Vindrac, near Cordes (Tarn).

1430. TIMOR MIHI CRESCIT IN HORAS. *My fear groweth hour by hour.*

In the Rue des Petits Champs, Paris.

1431. 'TIS ALWAYS MORNING SOMEWHERE IN THE WORLD.

The line is from Horne's "Orion," and was formerly on the West Pier, Brighton, with other mottoes. See No. 391.

1432. TO ΣΗΜΕΡΟΝ ΜΕΛΕΙ ΜΟΙ,
TO Δ'ΑΥΡΙΟΝ ΤΙΣ ΟΪΔΕ;

To-day is my care, but of to-morrow who knows?

Inscribed on the base of a dial pedestal at Whatton Abbey, Yorkshire. The lines are from Anacreon, Ode XV., l. ix.

1433. TOI QU'ANNONCE L'AUREORE, ADMIRABLE FLAMBEAU,
ASTRE TOUJOURS LE MÊME, ASTRE TOUJOURS NOUVEAU,
PAR QUEL ORDRE, SOLEIL! VIENS TU DU SEIN DE L'ONDE
NOUS RENDRE LES RAYONS DE TA CLARTÉ FÉCONDE?

*O Sun whose advent Phosphor's wondrous glow,
Star ever constant, ever fresh, doth show,
Who bids thee leave the ocean's breast, once more
On us thy quickening beams of light to pour?*

At Les Hières (Hautes Alpes) with Nos. 8 and 1613, and date 1806.

1434. TORNA IL SOLE, NON IL TEMPO. *The sun returns, not so time.*

On the wall of the cloister of St. Stefano, Belluno, now used as public offices. See No. 1247.

1435. TORNA L'OMBRA COL SOL CHE RINASCE
NON GIÀ L'UOM DI CUI MORTE SI PASCE.
*The shade returns with Phœbus to new birth;
Man, once Death's prey, is seen no more on earth.*

On the oratory of Sta. Marta, Pavone Canavese, Prov. of Turin.
See Nos. 1118 and 1436.

- 1436.** TORNÀ, TORNANDO IL SOL, L'OMBRA SPARITA,
MA A NOI NON TORNA MAI L'ETÀ FUGGITA.
*When comes the sun the vanished shade appears,
But ne'er to us return our vanished years.*

These lines are given in "Notizie Gnomoniche," as suitable for a dial motto, and are attributed to Rancati.

A dial at Bologna, near the Church of the Misericordia, has a motto almost identical with the above; and another version appears on the Oratory of Sta. Marta, Pavone Canavese, with other mottoes (see Nos. 1118, 1435). A third version was formerly on the Dogana at Isella, on the Italian frontier, but has now disappeared. Compare No. 1098.

- 1437.** TOT TELA QUOT HORÆ. *So many hours, so many darts.*

On St. Anne's Chapel, near Clermont-en-Argonne, with No. 1516.

- 1438.** TOTO MICAT ORBE. *He shines over the world.*
Place unknown. "Bull. Mon.," 1877.

- 1439.** TOUT PASSE. *All passeth.*

In the garden of the Presbytère at Montjoie (Ariège).

- 1440.** TOUT PASSE ICI BAS. *All passeth here below.* M. Praderes. Maire. 1830.

On the south wall of the Church of Durban (Ariège), beside an old graveyard. The words are nearly obliterated.

- 1441.** TOUT PASSE ICI, RIEN NE DEMEURE,
LA VIE FINIT AINSI QUE L'HEURE.
*All things move onward. Nothing here abides.
Man's life is like an hour that quickly glides.*

At Crépy-en-Valois, with No. 1551.

- 1442.** TOUTEI MATTRASSOUN, LA DARRIERO ENSUCO. (TOUTES BLESSANT, LA DERNIÈRE ASSOMME.) *All wound, the last slays.*

At Montmeyran, near Varages (Var).

- 1443.** TRUDITUR DIES DIE. Cezar fecit. 1783. *Day by day is thrust aside.*

From Horace, Carm. II. 18. 15. At Beaurepaire (Isère).

- 1444.** TRANSEUNT DIES TUI. 1586. *Thy days are passing.*

At Ilminster, on the Grammar School, which is now a girls' school. The date probably refers to the building, rather than to the dial.

- 1445.** TRANSEUNT ET IMPUTANTUR. 1714. *They pass and are reckoned.*
On the Cistercian abbey of Vallette (Corrèze); and on the Priory of St. Croix near Eu (Seine Inférieure).

1446.

TRANSEUNT.

NON SUM QUALIS ERAM.

They pass. I am not as I was.

From Horace. At Chérvy-en-Sereine (Seine-et-Marne).

1447. TRANSIBUNT ET AUGEBITUR SCIENTIA. *They shall pass, and knowledge shall increase.*

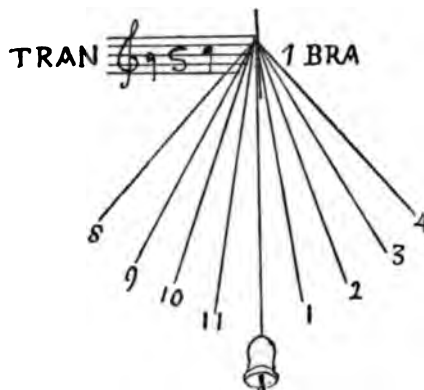
On the house once occupied by Cuvier at the Jardin des Plantes, Paris.

1448. This mysterious looking dial is painted on a house at Valcrosia, near Bordighera. The rebus forms the motto, TRANSIS UT UMBRA.

The note "si," followed by the letter "s," makes "sis"; the next note is "ut," or, as it is now called, "do"; but *ut* was the original use of the inventor of the Solfeggi, Guido d'Arezzo, a Benedictine monk. He formed it from the first syllable of each line of a hymn to St. John the Baptist, which begins:

"Ut queant laxis
Re sonare fibris," etc.

It is not easy to see how the first two letters of *umbra* are obtained, perhaps *un* is taken from the numeral *one*, and the single stroke which follows this makes *n* into *m*. We can offer no interpretation of the cipher below the hour lines.



ABA·J·B·W·E·E·J·B·
AA·J·B·W·E·E·J·B·
D·J·B·W·E·E·J·B·
VALCROSIA, NEAR BORDIGHERA.

1449. TRANSIT HORA LUX PERMANET. *The hour passes, the light remains.*

Near the Grand Theatre, Nice, on the quay.

1450. TRANSIT HORA, MANENT OPERA. *The hour passes, the deeds remain.*

On the courtyard of the Evêché at Blois are two large vertical dials, one bearing the above motto, and the other No. 250. The dials are covered with lines showing the solstices, equinoxes, and feasts of the Church; the signs of the zodiac are also given.

1451.

TRAPASSA LA SUA VITA IN UN MOMENTO

COME FUMO, BALEN, SOGNO, OMBRA, O VENTO.

Sol. 143. 5, Matt.

*Thy life in one brief moment all is past—**Like to dust, lightning, dreams, a shade, a blast.*

Given in "Notizie Gnomoniche."

1452. TRAVAILLEZ, CAR LE TEMPS S'ENFUIT. *Work, for time flies.*

At Le Bez (Hautes Alpes), on a dial made by Zarbula, about 1860.

1453. ΤΡΕΧΕΙ ΑΠΑΥΣΤΟΣ. *It runs without stopping.*

IL COURT EN POSTE. *Time rides post.*

On the wall of an inn at Izeaux (Isère).

1454. TRIFLE NOT, YOUR TIME'S SHORT. 1775.

At Milton, near Gravesend. So says Sir Walter Scott :

"Nay, dally not with Time, the wise man's treasure,
Though fools are lavish on't.—The fatal Fisher
Hooks souls, while we waste moments."

1455. TRISTIS ERAT SINE SOLE DOMUS. *Sad was the house without the sun.*

At Montauban (Tarn et Garonne).

1456. TRUE AS THE DIAL TO THE SUN
ALTHOUGH IT BE NOT SHONE UPON.
1808.

The lines are from Hudibras, and the dial is on the south aisle of Halifax Church, Yorkshire. The names of William Roberts, John Illingworth, Robert Abbott, and John Sutcliffe, churchwardens, are inscribed upon it. Another dial, probably older than this one, crowns the gable of the south porch.

1457. TU AVANCE A GRÂDE PAS VERS L'HEURE DE
TON TREPAS, MON EGUILLE MONTRE LE
CIELLE ET LA TERRE, DE PENCER AUX
DEUX C'EST TON UNIQUE AFFAIRE. (*sic.*)

Thou advancest with rapid strides towards the hour of thy death, my needle points out both heaven and earth, it is for thee to think upon them.

On the church of St. Nicolas du Tertre (Morbihan).

1458. TU LES COMPTES, ELLES FUIENT. 1569. 1692. 1857. *Thou countest them, they fly.*

At Virieu (Isère). The two latter dates are those of the renewal of the dial.

1459. TU NUMERI L'ORE MA NON SAI L'ORA DELLA MORTE. *Thou countest the hours, but thou knowest not the hour of death.*

At Vigo, near Pinzola.

1460. TU, QUAMCUNQUE DEUS TIBI FORTUNAVÉRIT HORAM,
GRATÁ SUME MANU ; (NEU DULCIA DIFFER IN ANNUM).

Whatever happy hour Providence has allotted thee, grasp it with grateful hand, and put not off its pleasures till the coming (next) year.

From Horace's Epistles, Bk. I., Ep. XI., lines 22, 23, and inscribed on the eastern face of a double dial on the Château de Preuilly (Seine et Marne). On the west is No. 1191.

1461. TU SEMPRE E QUANDO MUORI, E QUANDO NASCI,
OMBRE SOLE RITRUVI, ET OMBRA LASCI. (Paoli.)
*A shade thou leavest in thy earliest breath ;
Shades and nought else thou findest in thy hour of death.*

Given in "Notizie Gnomoniche."

1462. TU SORTIRAS QUAND CE CADRAN
MARQUERA L'HEURE ET LE MOMENT.

Thou shalt go forth when this dial shall show the hour and the moment.

It is stated in Delaure's "History of Paris" that the above lines were inscribed by one Charnel of Châlons, above a dial which he traced on the wall of his prison in the Bastille, and adorned with a Death's head and cross bones.

1463. TUA HORA RUIT MEA. *The hour which is mine, destroys what is thine.*

In the cloister of the old Franciscan convent at Cimiez, near Nice (see No. 233). The Latin of the motto is monkish; *ruo* is treated as an active verb, and the dial, as usual, is supposed to speak.

1464. TUA LATET. *Thine (hour) is hidden.*

On the church of Cahahons (Pyrenées Orientales), which was once a hermitage.

1465. TVAM NESCIS. *Thou knowest not thine (hour).*

On a house in Palermo; and also on the cathedral clock at Monreale.

1466. TVVS EST DIES, ET TVA EST NOX,
TV FABRICATVS ES AVRORAM ET SOLEM.

*The day is Thine, and the night is Thine,
Thou hast prepared the light and the sun.—Ps. lxxiv. 17.*

On a vertical dial on Maxey Vicarage, Northamptonshire, erected by the Rev. W. D. Sweeting. His initials, W. D. S., are on the stone, while the date, 1881, forms part of the copper support of the gnomon, so that the figures can be read backwards or forwards, and both in the morning and the afternoon the shadow gives the date of the erection of the dial.

1467. TURRIS MEA DEUS. *God is my stronghold.*

At the Château de Virieu (Isère).

1468. TUTTE LE COSE PERISCONO, IO SONO IMMORTALE. *All things perish, I am immortal.*

At Diano Castello, on the Riviera.

1469. TYME PASSETH AND SPEKETH NOT,
DETH COMETH AND WARNETH NOT,
AMENDE TO-DAY AND SLACK NOT,
TO-MORROW THYSELF CANNOT.

The above lines are inscribed round the four sides of a very beautiful old dial pillar at Moccas Court, Herefordshire. The dial belongs to the lectern-shaped class, and bears dials of various shapes in cup-like hollows, heart shaped, triangular, square, besides others on plain surfaces (see Chapter VI, p. 99). Between and around them five other mottoes are carved, Nos. 131, 217, 512, 1151, 1230.

On the north side, beneath the signs of the planets, is "Domus Planetarum Philippus Jones."

The dial which now belongs to the Rev. Sir George Cornewall, Bart., is thought to have been made in the reign of Charles II., and was first set up at Mornington Court (on the opposite side of the Wye), the property of the Tompkins family. When this property came into the possession of the Cornewalls, the dial was brought to Moccas.

1470. TYME TRYETH TROTIE.

On a dial in the village of Cradley, near Malvern; and also on an old dial plate mounted on an embossed draining tile at Oatlands Park, Surrey.

1471. VBI. VMBRA. CADIT. 1803. *When the shadow falls.*

At Betenoud (Isère), round the gnomon. A second motto—LE CIEL EST MA RÈGLE is also on the dial.

1472. ULTIMA DECIDET. 1848. B. A. F. *The last (hour) will determine.*

On a house at Ventimiglia.

1473. ULTIMA FORSAN. *Perhaps the last (hour).*

Seen in Switzerland on a house; and also in the Piazza S. Domenico, Bologna; and at St. Rémy (Bouches du Rhône).

1474. ULTIMA FORTE TIBI. *Perchance it is thy last hour.*

At La Rivière (Isère).

1475. ULTIMA LATET. *The last (hour) is hidden.*

With No. 1313 on a country house near Noyon (Oise). Also at the angle of the cloister beneath the belfry of the Franciscan convent at Cimiez. See Nos. 233, 598, 1111, 1463, 1475, 1618. Mr. Howard Hopley read this inscription in 1873, and adds that "when the old monk tolled the Angelus, the dial was half in gloom, and the evening hours were shrouded in shade." The motto is also at Alagna, and in several villages in the south-east of France, and was in 1707 above a goldsmith's shop in Paris. ULTIMA LATET HORA is at Névache (Hautes Alpes), dated 1785.

1476. ULTIMA LATET ET OBSERVANTUR OMNES. *The last hour is hidden, and all are watched.*

On an eighteenth-century dial in the court of the Séminaire at Autun.

1477. ULTIMA MULTIS. *The last (hour) to many.*

On an old Romanesque church at St. Béal (Hautes Pyrénées). The dial is on the belfry tower, beside a clock. Also at Champagnier (Isère).

1478. ULTIMA NECAT. *The last (hour) kills.*

At Spotorno; and at Bordighera; also on the house of the "Gardien des Ruines," at Port Royal des Champs; and on the church at Roscoff.

1479. ULTIMA PROPERAT. *The last hour hastens.*

On the church of Villeneuve-la-Guyard (Yonne).

1480. ULTIMA TERRET, 1768. *The last hour terrifies.*

At Beaufort (Isère).

1481. ULTIMAM COGITA. *Think on the last hour.*

On the old Château of Vendôme. ULTIMAM MEDITARE, with the same meaning, is on the church at Biol (Isère).

1482. ULTIMAM NESCIS. *Thou knowest not the last hour.*

Formerly in a court of the Gobelins, Paris.

1483. ULTIMAM PERTIMESCAS HORAM. 1804. *Thou greatly fearest the last hour.*

On the church of St. Pierre, Moissac (Tarn et Garonne).

1484. ULTIMAM TIME. *Fear the last hour.*

At St. Germain la Blanche Herbe, with No. 77; also at Rouen;



ST. BÉAL
(HAUTES PYRÉNÉES).

and in villages of the Departments Haute Garonne and Isère. TIME ULTIMAM is on the church tower at Verdun (Ariège).

1485. UMBRA DEL. *The shadow of God.*

On the cross-dial at Elleslie, near Chichester (see No. 104); and on Dymock Church, Gloucestershire.

1486. UMBRA DIURNA FUGIT,
NON ITA VITA REDIT.

The daily shadow flies, but life doth not like it return.

At Roches (Loire Inférieure).

1487. UMBRA DOCET. *The shadow teaches.*

Once on Brighton pier (see No. 391). Baron de Rivière quotes from the "Magazin Pittoresque," 1873, that "in the east of France one may still see in the interior of several sixteenth or seventeenth century houses great bricks set in the wall which have been engraved before being fired, and serve as sun-dials." On one of these the motto UMBRA DOCET was inscribed, and a basket of flowers was painted on the wall below.

1488. † UMBRA FACIT CERTAS HABITANTIBUS HORAS.
Sculptor perpetuis cernens diem polleat suis.

The shadow maketh known the hours to the dwellers here.

On one of two dials now placed on the transept wall of the church of Notre Dame, Châlons-sur-Marne. It has been suggested that the second Latin line may be rendered *Let the sculptor as he marks the day, be famous for his ever-abiding works.* (His Latinity will never bring him fame!)

1489. UMBRA FUGIT PRAECEPTA VITAE MORS IMAGO. *The shadow flieth headlong, death is the likeness of life.*

On the church of Formigny (Calvados).

1490. UMBRA LABITUR, ET NOS UMBRAE. *The shadow glides away, and we are shadows.*

Once on Glasgow Cathedral, with Nos. 289, 942. It has now been inscribed on a dial at Inch House, Midlothian, which was once at Craigmillar. See No. 72.

1491. UMBRA LATET. *The shadow is hidden.*

On the curé's house, Recoing (Isère).

1492. UMBRA LEVIS TRANSIT, ET TU TRANSIBIS IPSE. *The shadow quickly passes, and thou thyself shalt pass.*

At Nevers.

1493. UMBRA MONET UMBRAM. *Shade warns shade.*

That is—the dial warns man. For a similar thought see No. 1503.
The above motto was communicated by Sir Frederick Elliot.

1494. UMBRA PERIT, VOLAT HORA, DIES FUGIT, OCCIDIT ANNUS.
STAT NIHIL ET STAT HOMO QUI VELUT UMBRA FUGIT.

*The shadow perishes, the hour flees, the day flies, the year dies.
Nought stands fast, yet man, who flieth like a shadow, remains.*

Locality not known.

1495. 1. UMBRA PULSAT.

The shadow strikes.

2. NON AURI SED OCULO.

*Not for the ear but for the eye.
For sight—not sound.*

Given in "Notizie Gnomoniche."

1496. UMBRA! QUID ASPICIS? UMBRAM. *Shadow! what seest thou? A shadow.*

At Krinan, Canton St. Gall, Switzerland.

1497. UMBRA REDIBIT HOMO NUNQUAM. *The shadow will return, mankind will never return.*

At La Rivière (Isère).

1498. UMBRA REGIT. *The shade bears rule.*

On a house at La Verrerie, near Carmaux (Tarn).

1499. UMBRA SUMUS, 1739. *We are a shadow.*

On the north side of a cubical stone dial at Brympton, near Yeovil; there are dial-faces on all the four sides, and on the south side No. 966 is inscribed. It is mounted on a shaft and crowned by a ball, and has been placed upon the terrace at Brympton by the present owner, Sir Spencer Ponsonby Fane. It was previously on the top of the kitchen garden wall. The motto has also been read on the churches of St. James, Parkham; SS. Mary and Gregory, Frithelstock, Devon; and on the parish church, Maidstone.

1500. UMBRA SUMUS—TAMEN IIS AEVUM COMPOSITUR UMBRIS. *We are a shadow—yet time is made up of such shadows.*

Mr. Spencer Butler, Seaford, Surrey, writes: "I wanted to combine in one line the two ideas, that though we are fugitive like the dial shadow, yet like the dial shadows, in the aggregate we make up the space of time or eternity. The best shape I could give to the idea was the above line. I had on a south wall an ugly patch of cement where

a summer-house had been. A friend suggested fixing an iron rod against it in a line pointing to the north pole. The dial was painted grey with a black border, the figures red.

1501. UMBRA TEGIT LAPsas PRAESentIQUE IMMINET HORAE,
DUM LUX DUM LUCIS SEMITA VIRTUS AGAT.

*Ere yet the threatening shade o'erspreads the hour,
Hasten, bright virtue, and exert thy power.*

On a dial in the garden at Brynbella, near St. Asaph, where Mrs. Piozzi lived. She says in her "Autobiography," vol. ii., p. 345, "Dr. Robert Gray, who wrote the new book that every one is reading, wrote the lines under our sun-dial at Brynbella." The house was designed by Piozzi, and built some years after Dr. Johnson visited Wales. He stayed at another house on Mrs. Piozzi's property.

1502. UMBRA TIBI SOL MIHI. *Shade to thee, sun to me.*

At the convent of the Dames de Nevers, at Mirepoix (Ariège).

1503. UMBRA VIDET UMBRAM
VIVE HODIE.

*A shadow marks the shadow.
Live to day.*

On a pedestal dial at Bradford Peverell House, near Dorchester. The inscription is somewhat defaced. The dial was possibly erected by George Purling, Esq., about 1815-20, when the garden was laid out. The correspondent who sent the motto points out that the "umbra" spoken of is evidently the man whose "days are as a shadow," and Pindar's *οκιάς ὄντα ἄνθρωπος* (Pythia, viii. 95). The same mottoes are on the tower of Broughton-Gifford Church, near Melksham, where there are two dials, but only one of them is inscribed (see No. 1506).

1504. UMBRAE TRANSITUS EST TEMPUS NOSTRUM.
S. Sykes fecit. Decem. 22, 1790.

Our time is the passing away of a shadow.

On a house-dial at Wentworth, Yorkshire; also at Cuers (Var), Moutiers (Savoy); on the house of the parish priest at Bousson, Prov. of Turin; and on the church of S. Crocifisso, Pieve di Cadore (see Nos. 442, 966, 1548). UMBRAE TRANSITUS EST VITA NOSTRA has been read on a church at Palermo.

1505. UMBRAM DUM SPECTAS REFUGIT REVOLUBILE TEMPUS. *Whilst thou lookest at the shadow, on-rolling time escapes.*

In Alderley Churchyard, Cheshire.

1506. UMBRAM VIDET UMBRA. *Shadow seeth shadow.*

This motto is on one of two window-dials at Groombridge Place, Kent; the second bears No. 682. They are quite small, and the fly,

which rather resembles a beetle, is painted on them. The house was built in the reign of Charles II., by Mr. Packer, on the ruins of an older mansion, which had succeeded to a still older castle. The present house was designed by Wren, and the dials are probably of the seventeenth century, and may have been seen by Evelyn, who mentions the house in his diary.

In the charming old-world garden at Groombridge the two mottoes again appear, round the base of a pedestal on which is mounted a horizontal dial, inscribed, "1716, Nath. Witham Londini fecit." The pedestal is modern, of red sandstone, and was copied from a fine one at Chilham Castle, Kent.

1507. UNA DABIT QUOD ALTERA NEGAT. *One hour will give what the next denies.*

At Aups (Var); and, with the last two words transposed, was formerly on the Duc d'Enghien's house at Chantilly, the fine palace lately bequeathed by the Duc d'Aumale to the Institut de France.

1508. UNA DI QUESTE T' APRIRÀ LE PORTE
DI VITA LIETA, O DI SPIETATA MORTE.
*One of these hours shall open thee the gate
Of blissful life, or of relentless fate.*

On the wall of a convent at Nervi; the motto was read and translated by Dean Alford.

1509. UNA HARUM VITAE HORARUM ERIT ULTIMA. 1814. *One of these hours will be the last of life.*

On a church near Queen Hortense's Château of Arenenberg. The dial is circular in form. Time with his scythe is in the centre, and over him, a sun, from which issues the gnomon. It was sketched in 1866.

1510. UNA MANET. *One hour remains.*
Formerly at St. Lazaire, Paris.

1511. UNA QUAQUE HORA INVENIAT
TE PINGENTEM AETERNITATEM. Z. G. F. 1840.
Let every hour discover thee, reflecting on eternity.
At St. Véran (Hautes Alpes).

1512. UNA TIBI. *Thou hast but one.*
On a seventeenth century house at Montauban.

1513. UNA UMBRA ET VAPOR EST HOMINUM VITA. *Man's life is at once a shadow and smoke.*

There is a curious device on this sun-dial, which stands in Helston

Churchyard, Cornwall. It represents St. Michael, robed, winged, and with rays of glory round the head, standing betwixt two gate-towers, and driving his spear into a dragon at his feet.



HELSTON CHURCHYARD.

1514. UNAM RAPITE. *Grasp one hour.*

At Paray-le-Monial, with four other mottoes.

1515. UNAM SPERA. *Hope for one hour.*

At the top of a house in Paris.

1516. UNAM TIME. *Fear one hour.*

On a brass pocket sun-dial in the collection of the Clockmakers' Company, made by T. Menant, Paris, 1743; on a house at St. Pierre, and also at Sierre, Canton Valais; on the Château de Grignan (Drôme); at Gass; and in several villages in France. It is on a chapel dedicated to St. Anne, near Clermont-en-Argonne, with No. 1437. The place is a great resort for pilgrims, and in addition to the mottoes on the dial there are several texts inscribed on the walls, relating to death and judgment. Over the door of a hermitage the following words can be read at noon round a sun made of copper-gilt: "Oriens ex alto. Deus nobis hæcce ostia fecit"—*Arising from on high. God hath made us this doorway.* On the church at Stazzano, Piedmont, UNAM TIMEO—I fear one hour, is inscribed on a sun-dial.

1517. UNE SUFFIT.
Roland fecit.
One hour suffices.

At Arandon (Isère).

1518. UNICUIQUE SUA EST. *For every man is his hour.*

Formerly on a dial in the Court of the Séminaire at Autun.

1519. UNITED IN TIME, PARTED IN TIME,
TO BE REUNITED, WHEN TIME SHALL BE NO MORE.

On a fine facet-headed dial, designed and erected by Lady John Scott, at Cawston Lodge, near Rugby, in 1863. It was partly copied from the dial in the King's garden at Holyrood, which Charles I. presented to Queen Henrietta Maria. The pillar is mounted on two steps, and near the base are the Scott arms and the Spottiswood arms—Lady John Scott being Alice, the eldest daughter of John Spottiswood, Esq., of Spottiswood, co. Berwick. In separate panels round the lower part

of the pillar are engraved "John and Alice Scott"; "A Bellenden," the old Border war-cry of the Scotts of Buccleuch; "Amo," one of their mottoes; "Best riding by moonlight," their ancient Moss-trooping motto; and "Patior ut potiar," the Spottiswood motto. The dial mottoes, the crests of the two families, and the monograms of Lord and Lady John Scott are carved in corresponding panels at the upper part of the pillar, the top being encircled by a serpent, the emblem of eternity.

1520. UNUM ARRIPE PUNCTUM. *Seize one moment.*

At Gentilly, near Paris.

1521. URBIS HORAM DOCTOR LINEA MONSTRAT. *The learned line showeth the city's hour.*

On the church of St. Vittore, Milan.

1522. USE THE PRESENT TIME
REDEEM THE PAST
FOR THUS UNCERTAINLY
THOUGH IMPERCEPTIBLY
THE NIGHT OF LIFE
APPROACHES.

In Aldingham churchyard, Lancashire.

1523. USE WELL THE PRESENT MOMENTS AS THEY FLEET,
YOUR LIFE, HOWEVER SHORT, WILL BE COMPLETE,
IF AT ITS FATAL ENDING YOU CAN SAY:
I'VE LIVED AND MADE THE MOST OF EVERY DAY.

In the churchyard at Waterfall, Staffordshire.

1524. USQUE HUC CRESCIT. *Even so far there is increase.*

At Béziers. This motto has also been recorded as USQUE HUC



CAWSTON LODGE, RUGBY.

VENIET, *Till hither shall he come*, the meaning of both seems to be that the course of the shadow is limited.

1525. UT CUSPIS SIC VITA FLUIT DUM STARE VIDETUR. *Life flies on like an arrow, while it seems to stand still.*

In the Jardin des Plantes, Paris, and, with the omission of the word "sic" at the Jesuits' College, Clermont-Ferrand.

1526. UT FLOS VITA PERIT ET VELUT UMBRA FUGIT. *Life perishes like a flower, and like a shadow flees.*

At the Hameau du Chatelard (Isère).

1527. UT HORA FUGIT VITA. K.C. 1675. *Life flies as an hour.*

On Cortachy Church, Forfarshire.

1528. VT HORA PRAETERITA SIC FUGIT VITA. 1612. A. B.

As the hour that is past, So doth life fly.

Engraved on a horizontal dial, in the possession of Colone Fishwick, at The Heights, Rochdale, Lancashire. The motto has been placed, with No. 939, on a large vertical dial on the offices of the Brighton and Sussex Provident Society, North Street, Brighton.

1529. UT HORA SIC FUGIT VITA. 1578.

As an hour, so doth life fly.

Painted in old English letters above the south door of King's College Chapel, Cambridge. The motto is now nearly illegible. Tradition attributes the dial to Dr. John Cowell, the jurist, who was educated at King's, and became Professor of Civil Law. He died 1611.

1530. UT HORA SIC VITA. *Life is as an hour.*

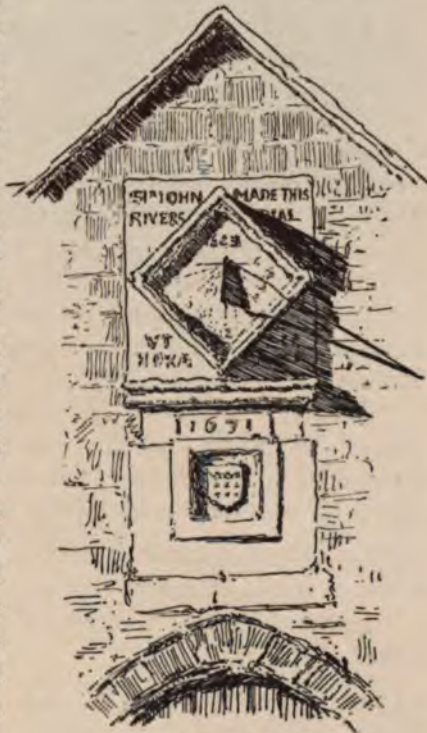
It may fairly be said that this is the most common of all mottoes in England. One of the earliest dated examples is that of Ashurst Church, Kent, where it is cut in relief below a diamond-shaped dial of stone on the porch. The dial is dated 1643, and there is the further inscription, "Si' Iohn Rivers made this." Below the dial is the date 1621 and a shield with the Rivers arms in a sunk panel. A horizontal dial on a plain shaft in the churchyard is inscribed "Elias Allen made this diall and gave it to the parish of Ashurst, An^o. Domini 1644." Elias Allen, a diallist, died 1654.

The same motto is on a curious carving, representing a death's head, and winged hour-glass over the porch of Sheepstor Church, Devon, with *Mors janua vitæ*, and *Anima resurget*, 1640, but no traces of numerals or gnomon are to be seen. A small stone dial which was formerly on the church porch at Stanhope, co. Durham, and has now

been moved to the chancel wall, bears this motto, the date 1727. It was put up when Bishop Butler was rector. His "Analogy" was written while he lived at Stanhope. In 1828 Mrs. Gatty sketched the dial on the porch gable of Felton Church, Northumberland, which had the same motto, and date 1724; and it has also been read on the church porch of Heddon-on-the-Wall, Northumberland; on Whitton le Wear Church, dated 1773; and Jarrow Church, co. Durham; on the porch of Methwold Church, Norfolk, with the gnomon projecting from the sun's face, and the names of "Rich. Clarke, Rich. Younge, Jun^r. churchwardens, 1721"; on St. Giles' Church, Sidbury, Devon; on the church porch, Chapel-en-le-frith, Derbyshire, 1871; on Hatford Church (No. 123); and on St. Patrick's Church, Patrick, Isle of Man (see No. 864); and with No. 1342, in Acton churchyard, Cheshire; in Eyam Church. See No. 511.

The motto may also be seen on a horizontal dial mounted on an octagonal shaft in Adel churchyard, near Leeds; it is engraved on a scroll with the name of "J. Munn, Ebor. fecit ex donatu. 1682." About the same time Mr. Munn made a vertical dial for Almondbury Church, which is now on the south wall and bears his name and the date 1682; as well as a horizontal one for Woodsome Hall in the same neighbourhood in 1683. The same motto is on both these dials. It is also on a dial-plate in the churchyard of Wath, near Ripon, supported by what appears to have been part of the shaft of a cross. The names "Thos. Browne, Geo. Yeats, 1735," have been carefully cut on the side. It is on the Almshouse at Ormsby, Yorkshire, dated 1724; at Menwith Hill (Nos. 468, 1147); and Thorp Perrow (No. 1396) in the same county, at Brougham Hall (No. 875) and at Marrington Hall (No. 1394).

"Ut hora sic vita" is likewise on the south front of Callaly Castle, Northumberland, dated 1676. The arms of the Clavering family, owners of the estate for several centuries, are on the same façade. It is at Gibside House, near Newcastle. The arms of Bowes and Blakeston, and the dates 1620 and 1805 are also on the hall, the first showing the date of its erection, and the latter of its restoration. The motto is on a house at Neasham, co. Durham; and according to a statement of the Rev. R. V. Taylor in the "Yorkshire Post" was, with



ASHURST CHURCH, KENT.

date 1672, upon a dial which formerly stood at Wooldale, near Holmfirth, in front of an old house. The plate was fastened upon a curious pillar of rudely hewn stones, which bore some resemblance to a house clock and was known by the name of "Old Genu's dial," or "Genu's clock." An engraving of it is in Morehouse's "History of Kirkburton." The pillar has been removed and the dial erected on the wall of an outbuilding. It bears the initials H. G. and S. H., supposed to be those of the sculptor and the owner.

The same words are engraved on a horizontal dial dated 1630, which came from an old garden at Dereham, in Norfolk. The gnomon is pierced with the initials I. S., probably those of the first owner. The dial is now placed on an oak post in the garden of Woodburn, Crowborough.

The motto appears to have been a favourite one in the Isle of Man, for it is found on a thin slate dial face now in Mr. Wallace's museum at Distington, near Whitehaven, but which there is reason to believe once belonged to Sautan Church, Isle of Man; and also on a bronze dial plate found on a rubbish heap near the Albert Brewery at Ramsey, and which in 1889 was in the possession of a tailor in Ramsey named Corkhill.

Lastly, "Ut hora sic vita" is inscribed on the clock which was placed in 1859 on the tower of Hoole Church, Lancashire, as a memorial of Jeremiah Horrox, who discovered the transit of Venus when he was curate at Hoole in 1639.

1531. UT JUGULENT HOMINES, SURGUNT DE NOCTE LATRONES. *Robbers arise at night to murder men.*

From Horace, Epistles I., ii. 32, on a dial at the entrance of a wood.

1532. UT RUIT UNDA FUGAX SIC NOSTRA ILLABITUR AETAS. *As the flying water rushes on, so glides away our age.*

At the Séminaire, Vesoul.

1533.

VT SOL ITA MVNDVS

Rich . Bankes . couentriensis fecit . 1630.

As the sun, so is the universe.

On a beautifully engraved horizontal dial plate belonging to the Duke of Sutherland, and placed on a pedestal at Lilleshall Manor, Salop. The arms of "Leuison" and "Duddeley" (which names are inscribed above the shield) with their crests, one of which is the historic Bear with the ragged staff, are also on the plate, which is square though the dial is circular. The corners are filled with finely engraved designs, and there is the further inscription: "Restored 1896 by F. Barker, London."

1534. UT UMBRA DECLINAVERUNT. *They have gone down as a shadow.*

At Trafume, near Cannobio, Lago Maggiore.

1535. UT UMBRA SIC FUGIT VITA. *As a shadow so life doth fly.*

On a metal dial which was formerly on the Town House, Aberdeen ; but has now been placed on the Municipal Buildings, built on the same site thirty years ago. The bracket of the gnomon is an ornamental design in wrought iron, and the gnomon springs from a radiant sun on the face.

1536. UT UMBRA SIC VITA. *As a shadow so is life.*

On a dial, dated 1695, at Morden College, Blackheath ; also at Morvah Church, West Cornwall, with the date 1-29 partially defaced. It is engraved, too, on one of the four corner pinnacles of the churchyard wall at Sleights, near Whitby. Here the motto is below the dial, which faces south. On the east side of the same pinnacle is another dial with the date 1761, and initials R. T. B. and G. B. It was in this year that Robert and Tabitha Bower built the church. The same words are on the church porch at Torpenhow, Cumberland ; at Ridley Hall, Northumberland, with No. 45, and Hartest Church, Suffolk. They may be read on the Red Lion Inn, Fenny Compton, which bears the date 1600 ; also near Baslow, with other mottoes ; at Derwent Hall, with No. 24 ; at Shaftesbury, Dorset ; and at Barnes Lodge, King's Langley (see No. 161). UT UMBRA SIC VITA was also on the dial, now defaced, on the old hall, Gainsborough, with No. 188, and is on a diamond-shaped dial face, which in 1889 was lying dismounted in the garden of Flotterton House, near Rothbury. At the top of the plate the face of the sun-god is engraved with the motto below it ; the date 1773 and the initials T. W. also appear on the plate. The latter are supposed to stand for John Weallans, but as the family of Weallans only became possessed of the house early in the present century, they probably brought the dial from some other place.

1537. UT UMBRA, SIC VITA TRANSIT. *As a shadow so doth life pass.*

On a glass dial in a window of Election Chamber, Winchester College. The shape of the dial is an oblong square, set in an oval frame of richly-coloured glass. The motto is on a scroll in the centre of the upper half of the pane which forms the plate, and at one corner is the mysterious fly already noticed, see No. 248. Bishop Henry King, writing in the seventeenth century, says :

"What is the existence of man's life ?

* * * *

It is a dial which points out
The sunset as it moves about :
And shadows out, in lines of night,
The subtle changes of Time's flight ;
Till all obscuring Earth hath laid
The body in perpetual shade."

1538. UT UMBRA SUMUS. 1573. *As a shadow are we.*

On Cordell's Hospital, Long Melford, Suffolk. It also occurs on an old house at Edmonton.

1539. UT VITA FINIS ITA. 1692. *As the life is so is its end.*

On the tower of Chelsea Old Church. The dial has lately been repaired, and also the brick tower. Sir Thomas More lies buried in the church.

1540. UT VITA SIC FUGIT HORA. *The hour passes away like life.*

On the second chapel of the Sacro Monte at Orta; and on a large diagram of a sun-dial in "Rudimenta Mathematica," by Sebastian Münster (Basle, 1551).

1541. UT VITA SIC UMBRA. *As life so is the shadow.*

On a house at Kirby Moorside, dated 1833; on one of the dial faces at Thorp Perrow, Yorkshire (see No. 1396); and at Elleslie, Chichester (see No. 104).

1542. UTERE DUM LABITUR. *Employ it while it glides on.*

At Les Tilleuls, near Perpignan.

1543. UTERE DUM LYCET (*sic*). *Use it while it (time) is given.*

Formerly on a *dépendance* of the Convent de la Merci, Paris, but this no longer exists. Compare No. 240.

1544. UTERE DUM NUMERAS. *Employ, while thou countest them.*

No locality assigned.

1545. UTERE, FUGIT. *Use it, it flies.*

At La Roquette, near Castelnaudary (Aude).

1546. UTERE NON NUMERA. 1809. *Employ them, count them not.*

At St. Foy (Savoy).

1547. UTERE NON REDIT HORA. *Employ the hour, it returneth not.*

On the Quai des Théatins, Paris, in 1787.

1548. UTERE PRAESENTI MEMOR ULTIMAE. *Use the present hour, mindful of the last.*

On the Church of S. Crocifisso, Pieve di Cadore, see No. 442; at Strevi; on the Lycée, formerly a Jesuit college, at Montpellier; and at St. Blaise du Bois (Isère), dated 1786. The first two words, with "D. C. S 1784" are in the garden of the Hôtel de Rochegarde, Albi (Tarn); at the Grand Séminaire at Aix in Provence; and in the garden of the Hospital of St. Jacques at Besançon, with other mottoes. See No. 75.

1549. UTERE PRAESENTI NAM VELUT UMBRA, TEMPUS FUGIT. *Employ the present time, for like a shadow, it flees.*

At Nevers.

1550. UTINAM SAPERENT ET NOVISSIMA PROVIDERENT. *O that they were wise, that they would consider their latter end!* (Deut. xxxii. 29.)

At Bellentre (Savoy).

1551. UTINAM UTARIS NON REDITURA. *O that thou wouldst use the hour which will not return.*

With No. 1441 on a dial at Crépy-en-Valois.

1552. UTQUE REDIT VIAM
CONSTANS QUAM SUSPICIS
UMBRA FUGAX HOMINES
NON REDITURA SUMUS.

As he (the shadow) returneth ever upon his path at which thou lookest up, so we men are a fleeting shade which returneth not.

On a church at Pozzuoli.

1553. VADAM ET REVERTAR. HINC PROCUL UMBRA (Picinelli).
I shall go and return. Hence afar shade.

Given in "Notizie Gnomoniche."

1554. VADENS ET NON REDIENS. *Going and not returning.*

On an eighteenth century dial at Les Pananches (Hautes Alpes).

1555. VAE TERRAE ET MARI, QUIA DESCENDIT DIABOLUS AD VOS, HABENS IRAM MAGNAM, SCIENS QUOD MODICUM TEMPUS HABET. APOC. C. XII. V. 12. *Woe to the earth and to the sea, because the devil is come down unto you, having great wrath, knowing that he hath but a short time.*

The locality in which we find this inscription, from the Vulgate translation and the Douay version, is very interesting. The dial is over an archway which leads into the great convent square at the top of the Sacro Monte at Varallo; and through this opening, pilgrims from all parts of Italy have been wont to pass and repass, in order to pay their devotions at the "Nuova Gerusalemme del Sacro Monte di Varallo."

The Sacro Monte was founded in 1486 by Bernardino Caimo, a Milanese nobleman, and it grew rapidly in riches and reputation; the visits paid to it by Archbishop Carlo Borromeo contributing not a little to its renown. Forty-six chapels or oratories are dotted over the hill, in each of which there is a scene from the life of our Lord, represented by groups of full-sized terra-cotta figures, clothed and painted to look like life, whilst the walls are covered with frescoes on which the Lombard artists exercised their skill for many years. Amongst these are some of Gaudenzio Ferrari's finest works, but the screens and partitions which enforce the distance that "lends enchantment to the view" of the figure groups are by no means favourable to an examination of the frescoes. There are, however, some very striking groups, notwithstanding the

drawbacks of age, eccentricity, and excessive realism. Sometimes a grand force and truth of expression are revealed, which must have made the sacred scenes come home to the hearts of the mountaineers. The Sacro Monte is crowned by the convent, which overlooks the lovely Val Sesia, where the town of Varallo lies at the foot of its Mount Calvary.

The dial is large, painted on the wall, and much ornamented. A kind of eagle's head and wings rise above the plane, and something of the same sort appears below, the whole being inclosed in a narrow border. The width of the dial exceeds that of the arch beneath. The lines on the face show the Italian hours only, from xii to xxiv. The tropics of Cancer and Capricorn are described, and the parallels of the sun's course at his entrance into the twelve signs of the zodiac, together with the characters of the signs. The motto is on a spiral scroll on one side of the dial, and a corresponding scroll on the other side, somewhat defaced, has an imperfect Latin inscription relating to the construction of the dial. This is preceded by the figures -645, which may be a partially obliterated date of 1645.

1556. VANUM EST VOBIS ANTE LUCEM SURGERE. *It is vain for you to rise up early* (Psalm cxxvii. 2, Bible version).

At the Hameau des Arcisses, St. Chef (Isère).

1557. VASSENE 'L TEMPO, E L' UOM NON SE N' AVEDE. (Dante, "Purg." c. iv.) *Time passes on, and man perceives it not.*

Copied in 1866 from a house in the Via Brondolo, Padua: so "Padova la dotta" may be said to maintain its character for learning, even in its dial, and to show its fidelity to the memory of Dante, who is reported to have lived here in 1306. Nevertheless this dial is modern, it declines to the east, and was painted on the wall just above the green shutters of the first story windows. The round-arched doorway below, supported by a pillar on each side, opened into a carpenter's shop; and though in a back street, there was an air of departed grandeur about the building which suggested that its owners in the last century were people of greater consequence than the present possessors.

1558. VEDI L'ORA MIA, E L'ORA TUA NON SAI? *Dost thou see my hour and not know thine own?*

Given in "Notizie Gnomoniche."

1559. VEILLEZ SUR TOUTE, CRAIGNEZ LA DERNIÈRE. *Watch over every (hour), fear the last.*

On a scroll over a dial painted on the wall of a house at Cannes; copied in 1860.

1560. VELOCIOUS SOLE TEMPUS. *Time flies quicker than the sun.*

On a former Capuchin convent, now a "filature," Orvieto.

1561. VELOX UMBRA VITA VELOCIOR. 1763. *Swift is the shadow, swifter is life.*

At Moulins (Tarn). The dial has been renewed since the above date.

1562. VELUT UMBRA FUGIT. *It flieth like a shadow.*

On the tower of the old church of St. Léger de Guebwiller (Haute Rhin). Beside the dial the mitre and cross of the Prince Abbot of Murbach, who was formerly lord of the town, is painted, as are also the arms of the town, the "calotte plébéienne," and below, in German, is the republican motto, "Live free or die. 1791."

1563. VELUT UNDA LATENS. *Like water it is hid.*

On the presbytère, Arvieux (Hautes Alpes), made by Zarbula.

1564. VENI, VIDE, VALE. *Come, see, farewell.*

At Ballakilley, Isle of Man. See No. 1122.

1565. VENIO UT FUR. *I come as a thief.* Rev. xvi. 15.

Recorded by Mr. Howard Hopley, but no place named.

1566. VENITE ADOREMUS DOMINUM. 27 Oct., 1863. *O come, let us adore the Lord.*

This line, from the hymn "Adeste fidelis," is on the church of St. Lattier (Isère).

1567. VENTUS EST VITA HOMINIS. *The life of man is wind.*

On a wind dial at the Certosa dei Calci, Pisa.

1568. VER NON SEMPER VIRET. *Spring is not always green.*

At the Hameau des Glaises (Isère), with "Picard fecit. An. 1783." This is the *punning* motto of the Vernon family.

1569. VERA INTUERE MEDIA SEQUERE. 1855. *Regard the truth, follow the mean.*

In the Rue de Rivoli, Paris. A mirror with Number XII. is held by a figure.

1570. VERA LOQUI AUT SILERE. *To speak the truth or to be silent.*

On Highgate Grammar School; also at Cadenabbia.

1571. VERITAS TEMPORIS FILIA. *Truth is the daughter of time.*

Formerly on the portal of Strasburg Cathedral, dated 1669, with No. 1334.

1572. VESTIGIA NULLA RETRORSUM. *There are no steps backward.*

On the mural dial in Essex Court, in the Temple, and on a house at Brompton-on-Swale, Yorkshire.

The same phrase is found in Horace, Epistles I. i. 74-75, in allusion to the fable of the fox invited into the lion's den, but astutely declining—

“Quia me vestigia terrent
Omnia te adversum spectantia, nulla retrorsum.”

It is interesting to remember that this motto was adopted by John Hampden, when he took up arms for the Parliament. In “Amor Mundi,” Christina Rossetti writes :

“Oh, where are you going with your lovelocks flowing,
On the west wind blowing, along this valley track ?
The down hill path is easy, come with me an' it please ye,
We shall escape the up hill by never turning back.

* * * * *

Turn again, O my sweetest, turn again, false and fleetest :
This way whereof thou weetest I fear is hell's own track ;
Nay, too steep for hill-mounting, nay, too late for cost counting :
This downhill path is easy, but there's no turning back.”

1573. VIA CRUCIS VIA LUCIS. *The way of the cross is the way of light.*

At Hurstpierpoint School there is a recumbent cross dial with this inscription. The hours are indicated by the position of the shadow on different points of the cross.

1574. VIA VITÆ. *The way of life.*

Over a large square stone dial which was placed between pinnacles against the south side of the tower of Sheffield Parish Church. The dial was removed when a new clock was erected, but happily the vicar took care to have the older timekeeper restored to very nearly its former position. The same inscription is on the cross-dial at Elleslie, see No. 104 ; and was formerly on Himbleton Church, Worcestershire ; it was also on Cawthorne Church, Yorkshire, “S. H. fecit. 1798,” but was taken down at the partial rebuilding of the church in 1876.

1575. VIDE, AUDI, TACE. *See, hear, and be silent.*

The position of this dial motto is not identified.

1576. VIDES HORAM ET NESCIS FUTURUM. 1836. *Thou seest the hour, and thou knowest not the future.*

On the wall of a house at Pra on the Riviera, which forms part of what was once a little chapel. The belfry tower is the oldest portion of the building, constructed in the true Genoese style, with alternate stripes of black and white marble. All other traces of its former use have now disappeared. The windows on either side of the dial may usually be seen festooned outside with clothes after a washing day, and the tenants are poor people. It stands in the middle of the Piazza, which is the great rendezvous of all the inhabitants of Pra.

1577. VIDES HORAM NESCIIS HORAM. 1853. *Thou seest the hour, thou knowest not the hour.*

Over the door of the church at Alassio.

1578. VIDES PRÆSENTEM FUTURUM COGITA UTRINSECUS REGIMUR. *Thou seest the present hour, think on that which cometh, from both sides are we ruled.*

At the Cloître des Jacobins, Rue St. Dominique, Paris.

1579. VIDETE VIGILATE ET ORATE NESCIITIS ENIM DIEM NEQUE HORAM. *Take heed, watch and pray, for ye know neither the day nor the hour.*—St. Mark, xiii. 33; St. Matt.

xxv. 13.

Over the south door of the Frauen Kirche at Munich. The dial is very large and handsome, painted on a ground of blue with gold stars. A small seated figure in the centre of a glory of golden rays holds the gnomon, and a flying angel on each side bears up the scroll on which the hours are marked. The dial seems to date from the seventeenth century.



BELFRY AT PRA.

1580. VIDI NIHIL PERMANERE SUB SOLE. *I saw there was no profit under the sun.*—Eccles. ii. 11.

At Cividale, Friuli.

1581. VIGET QUODCUMQUE VIDET. *What he looks upon flourishes.*

At St. Jean de Grosbec, near Aups (Var).

1582. VIGILA, ORAQUE; TEMPUS FUGIT. *Watch and pray; time flies.*

On a buttress of the south transept of the parish church, Leighton Buzzard. With others. See No. 101.

1583. VIGILARE ET ORARE TEMPUS DIRIGIT. *To watch and pray, time ordains.*

Over the porch of Harewood Church, near Leeds. "Robert Smith fecit 1751." is engraved on the plate.

1584. VIGILATE ET ORATE. *Watch and pray.*

On Bridges' Almshouses, Thames Ditton, dated 1720 (the date of the building) and 1746; below is inscribed "Ex dono Henrici Bridges,

Gent." Also on Rothwell Church, near Leeds, with "I. Verity fecit 1821"; at Reading, "1727 G.P."; at Warwick; and over the church porch at Clovelly. There is a handsome dial at Loch Inch Castle, Wigtonshire, on which this motto has been inscribed. The graceful shaft and wide circular base of four steps are old, but the upper part, which bears the motto, and which consists of a faceted block of stone, surmounted by a pyramidal cap and crowned by a ball, was added in 1889 by Lord Stair: his crest and mottoes also appear upon it.

1585. VIGILATE ET ORATE; TEMPUS FUGIT. 1781. *Watch and pray; time flies.*

High up on the tower of Ellastone Church, Derbyshire, are these mottoes. The dial is fixed over a small built-up window, or what seems like it, and below is the additional inscription, "Knowe thyselfe," which looks of older date.

The same mottoes, with the date 1797, are on a dial upon the Wesleyan Chapel at Thorpe Hesley, near Rotherham; and likewise on the endowed school at Brampton Bierlow, with the date 1807.

1586. VIGILATE, NESCITIS QUA HORA. *Watch, ye know not what hour.*
On the meridian dial at Nevers Cathedral.

1587. VIGILATE, QUIA NESCITIS DIEM NEQUE HORAM. *Watch, for ye know neither the day nor the hour.* St. Matt. xxv. 13.

In the Via San Vittore al Teatro, Milan. The dial is 8 feet square, the gnomon a circular disk standing out from the wall by means of three iron rods. The motto was also on a western wall of the Capuchin convent at Velletri; and has been read at the Grand Séminaire at Avignon, with Nos. 75, 698. It is also on a dial in Mr. L. Evans' collection. See No. 135.

1588. VIGILATE, QUIA NESCITIS HORAM. *Watch, for ye know not the hour.*

Seen in 1870 on a house at Arles (Pyrenées Orientales), which looks into the small square where on fête days the peasants dance their national dance in the white caps and espartillos worn in the Eastern Pyrenees. This Arles must not be confounded with Arles in Provence. It lies at the head of the valley of the Tech, thirty-nine kilometres from Perpignan. The motto has also been read near the baths of Diocletian at Rome; and at Cimiez.

1589. VIRO SENSO SOULEOU IOU MARQUI PAR SENS 'LOU. [SI (LE MOULIN) TOURNE SANS LE SOLEIL, MOI JE NE MARQUE PAS SANS LUI.] *If (the mill) turns without the sun, I do not mark time without it.*

In the Provençal dialect on a flour mill at St. Jean de Bresque, near Fox Amphoule (Var).

1590. VIRTUS AD ASTRA TENDIT, IN MORTEM TIMOR. *Courage strives towards the stars, fear to death.*

On the château of Oberhofen, Lake of Thun, Switzerland.

1591. VITA FUGIT SICUT UMBRA. *Life flies as a shadow.*

With date 1732 on a château at Sierre (Canton Valais), now the Hôtel Bellevue; also at Place d'Armes, Briançon (see No. 8). The same motto is with Zarbula's initials on dials at Vallouise, dated 1840 (see No. 133), and at Abriès (Hautes Alpes).

1592. VITA FUGIT VELUT UMBRA. 1790. *Life flies as a shadow.*

Formerly on the church at Sandal, Yorkshire. The dial was removed when the church was restored, but is soon to be replaced.

1593. VITA HOMINIS SICUT UMBRA FLUIT. *The life of man flows away like a shadow.*

At Courmayeur.

1594. VITA HOMINIS UT UMBRA FUGIT. *The life of man flies like the shadow.*

Painted on the front of a house at Mollia, Val Sesia. The dial looked new in 1889. There is a second dial on the same house, No. 380.

1595. VITA QUASI UMBRA. *Life is as a shadow.*

At Sproughton Rectory, near Ipswich.

1596. VITA SIC TRANSIT. *So life passes away.*

On a square dial on Pickering Church, Yorkshire, with "W. Putsey, delineavit, 1817."

1597. VITA SIMILIS UMBRA. *Life is like a shadow.*

At Paray-le-Monial, with others.

1598. VITA TUA SEMPER INCERTA. *Thy life is ever uncertain.*

Seen in the Chiostro del Noviziato, St. Antonio, Padua, in 1888, but the words were nearly defaced.

1599. VITA UMBRA. 1867. *Life is as shadow.*

On Archbishop Abbot's Hospital, Guildford, over the entrance gate. The building dates from 1619; probably the date 1867 refers to the restoration of the dial.

1600. VITAE FUGACES EXHIBET HORAS. *It shows the fleeting hours of life.*

On the Maison des Ablets, near Marseilles.

1601.

VIVE HODIE
CRAS MINUS APTUS ERIT.

*Live to-day,
To-morrow will be less seasonable.*

On two of three dials which adorn three sides of the tower of the Lyme Cage, a building standing in Lyme Park, Cheshire. For the third motto see No. 1087. Also compare Nos. 533, 1043.

1602. VIVE MEMOR LETHI, FUGIT HORA. *Live mindful of death, the hour flies.*

On Makerston House, Kelso. The dial is a cubical block of stone which projects from the wall with dial faces on three sides: two of these are plain vertical dials, but the third on which the motto is engraved, is a cup-shaped hollow. It is seldom that this form is seen on an attached dial.



WIGMORE GRANGE.

1603. VIVE MEMOR QUAM SIS AEVI BREVIS. *Live mindful how short-lived thou art.*

Outside the terrace walk at Wentworth Woodhouse, Yorkshire, the seat of Earl Fitzwilliam, K.G., dated 1767; also on a glasshouse in the garden, dated 1766. The maker's name, "John Metcalfe," appears on both dials. The motto, which is taken from Horace, Sat. ii. 6, 97, is on the church at Goosnargh, Lancashire, with "C. Swainson, M.A., Minister of Goosnargh," and "H. Porter of Westfield, delin. & sculp., 1748."

With the word "aevi" omitted, it is on a dial at Wigmore Grange, Herefordshire, on which No. 127 is also inscribed.

1604. VIVENS MORTALIS. *He that lives is mortal.*

On the church at La Ferté Bernard, written over an earlier motto: "Fugit umbra."

1605. VIVERE CRUX DOCEAT, TE MONET HORA MORI. *Let the cross teach thee to live, the hour warneth thee of death.*

On a house at Compiègne, in 1861; near a Calvary.

1606. VIVERE DISCE. COGITA MORI.
Learn how to live. Think how to die.
Apord (?) Johannes Maximiliani
abio Austriaco () us mai ()
Renovatum
A.MDLXIII et MDCLIII
G. V. MDCXCI Archical.

On a large dial painted upon the wall of St. Lorenzkirche, Nuremberg, over the south door. Above the dial are ten lines in Latin explaining how the dial may be read, according to the different colours in which the lines are marked. This inscription is signed "Sebast. Sperantius, faciebat, Anno MDIII." The dial shows the Italian, as well as the ordinary hours, the signs of the zodiac, etc. Two of the lines above the word "renovatum" are nearly illegible. Johannes Stabius was a noted mathematician of the sixteenth century, and a writer on gnomonics, but his works have never been printed.

1607. VIVI BREV'ORE, INDI A SERRAR VAI GLI OCCHI. *Live thy short hour then close thine eye for aye.*

Given in "Notizie Gnomoniche."

1608. VIVIT MEMORIA ET FUGIT HORA. *Memory lives and the hour flies.*

Seen on a house at Monthey (Canton du Valais), in 1863.

"When Time who steals our years away
Shall steal our pleasures too,
The memory of the past will stay
And half our joys renew.

"Then talk no more of future gloom,
Our joys shall always last ;
For hope shall brighten days to come,
And memory gild the past !"

T. MOORE.

1609. VIVIT RELIGIO. BENEDICAMUS DOMINO.
Chapoullier fecit. 1824.

The faith liveth. Praise we the Lord.

At St. Hilaire du Rosier (Isère).

1610. VIVITE, AIT, FUGIO. *Live ye, it says : I fly.*

On a dial over the porch of Wrenbury Hall, near Nantwich. This inscription is thus alluded to in a letter from Bishop Atterbury to Pope, dated Bromley, May 25th, 1712 : " You know the motto of my sun-dial, *Vivite, ait, fugio*. I will, as far as I am able, follow its advice, and cut off all unnecessary avocations and amusements." In the same correspondence of the Bishop the following epigram occurs :

" Vivite, ait, fugio.
Labentem tacito quisquis pede conspicis umbram,
Si sapis, haec audis : ' Vivite, nam fugio.'
Utilis est oculis, nec inutilis auribus umbra ;
Dum tacet, exclamat, ' Vivite, nam fugio.' "

*Whoso on hushed foot mark'st the gliding shade,
If wise thou hearest, " Live ye, for I fly."
To eyes and ears the shadow lends its aid,
Silently crying, " Live ye, for I fly."*

The dial was probably a mural one on the ancient moated palace of the Bishops of Rochester, at Bromley, which was pulled down by Bishop Thomas in 1774. The building which he substituted has ceased to be an episcopal residence. VIVITE, FUGIO, *Live ye, I fly*, with the date 1774, is on the steeple of St. Cuthbert's, commonly called the West Kirk, Edinburgh. VIVITE, ECCE FUGIO, *Live ye, behold I fly!* 1712, is on the church of Kirkby Overblow, Yorkshire.

1611. VIVO TRA VITI MA IL MIO CORE INGOMBRA
TEMA DI SI SPARIR COME QUEST' OMBRA.
*Midst vines I dwell, and yet my heart o'erweighed,
Fears that it too may vanish like this shade.*

In the sacristy of the church of the Frari at Venice there is an old clock, having a wooden frame elaborately carved with figures and devices. One of these represents a man in armour standing amidst vines, and holding a sun-dial, above which the foregoing motto is inscribed. The four corners of the clock represent Childhood, Youth, Manhood, and Old Age, together with the Four Seasons, and the four winds or cardinal points. The setting sun, and waning moon, a skeleton, an owl, and various other emblems are also represented, and an explanation of the carving written on parchment is affixed to the door. The frame was carved out of a single piece of cypress wood, by Francesco Pianta, A.D. 1500.

1612. VIX ORIMUR ET OCCIDIMUS. *Scarce do we arise, and we have set.*

Formerly in a court at St. G  nevi  ve, Paris.

1613. VOICI VOTRE HEURE. *Behold your hour.*
Read near Geneva; and at Les Hi  res (Hautes Alpes).

1614. VOLA L'ORA ED IL TEMPO ANCORA. *The hour flies and time yet more.*
At Castel Nuovo, near Bormida.

1615. VOLANO L'ORE, I GIORNI, GL'ANNI, E I MESI (Petrarch). *Hours, days, months, years, all fly.*
Given in "Notizie Gnomoniche."

1616. VOLAT IRREPARABILE TEMPUS
DEMUM SUB SOLE NIHIL.
Time flies, never to be retrieved; at length there will be nothing beneath the sun.

At La Buiserate (Is  re). The first line was formerly at St. Apollinare in Classe, Ravenna; and also on an engraving of a sun-dial in "Gnomonice de Solariis," 1572, by B. Schultz, with other mottoes.

1617. VOLAT IRREVOCABILIS HORA. *The hour flies never to be recalled.*

Given in "Notizie Gnomoniche." The first two words of this motto are on a house at Sierre.

1618. VOLAT SINE MORA. *It flies without delay.*

In the Cloister of the Franciscan convent at Cimiez, with other mottoes. See No. 1111.

1619. VOLAT TEMPUS. *Time flies.*

OH, EARLY PASSENGER, LOOK UP, BE WISE,
AND THINK HOW NIGHT AND DAY TIME EVER FLIES.

On the east dial of the pillar at Tytherton Kellaways, Wiltshire. This pillar, surmounted by a block of stone bearing dials on three of its faces, stands on the banks of the Avon, beside a bridge over which runs the road from Chippenham to Tytherton. It was erected in 1698 by the trustees of Maud Heath's Causeway, and each dial bore originally a Latin motto only; but about 1828 the Rev. William Lisle Bowles, who was rector of the adjoining parish of Bremhill, obtained leave to engrave a poetical paraphrase on each face, as he doubted the power of the ordinary passers-by to understand the mottoes as they stood. His couplets are engraved in small letters below each dial, the Latin mottoes being above. For the mottoes on the south and west faces see Nos. 250, 1077.

1620. VOLUMUS A TE SIGNUM VIDERE. *We would see a sign from Thee.*
(St. Matt. xii. 38).

Given in "Notizie Gnomoniche."

1621. VOLVITUR IN PUNCTO.
PUNTOQUE RESOLVITUR.

17 Aetas 44.

*(Time) passes in a moment,
And in a moment it is gone.*

This motto, with its inconsistent spelling, is on a wooden dial-plate bought by Charles T. Gatty at a sale at Sotheby's. "Bruyère fecit" is on the plate.

1622. VOS UMBRA ME LUMEN REGIT. *The light rules me, the shadow you.*

On an eighteenth century dial on an old hospice at Doussard (Savoy). VOS UMBRA REGIT, SOL ME, *The shadow rules you, the sun me*, was once on the Bastille; but after the 14th July, 1789, both sun and shadow ceased to rule over the terrible building.

1623. VOULEZ-VOUS ÊTRE HEUREUX, RESTEZ EN VOS DEMEURES,
ET N'ALLEZ PAS CHERCHER MIDI À QUATORZE HEURES.

*If ye would happy be,
 Remain content at home :
 Nor seek the noonday sun
 When two o'clock is come.*

It seems doubtful whether these lines, or the quatrain quoted with No. 537, formed the motto improvised by Voltaire for the sun-dial at La Ferté sous Jouarre, which was still in existence at the beginning of the nineteenth century. The explanation of the phrase "chercher midi à quatorze heures" is given under No. 537.

1624. VOUS QUI PASSÉ SOUVENÉ VOUS AN PASSANT QVE TOVT PASSE COMME JE PASSE. 1773. (VOUS QUI PASSEZ SOUVENEZ VOUS EN PASSANT Q'VE TOUT PASSE COMME JE PASSE.) *You who pass by remember in passing that all passes as I pass.*

(On a vertical dial which shows the hours from XII to VI, at Villard St. Pancrace (Hautes Alpes).

1625. VOYAGEUR, HÂTE TOI, IL EST PLUS TARD QUE TU NE PENSES. *Traveller, make haste, it is later than thou dost think.*

At Noyarey (Isère).

1626. VULNERANT OMNES, ULTIMA NECAT. *All (hours) wound, the last kills.*

On the church tower of Urrugne (Basses Pyrénées). Urrugne is on the great western road leading from France into Spain, and has the wild irregular ridges of the Spanish mountains in view. The dark Spanish-looking church has associations with the Peninsular war. The "Subaltern" gives an account of a night spent in it after the assault and capture of the village on the previous day, in November, 1813, when he and his men were cantoned in the church, where the thick walls were proof against the field artillery of the French. This village formed part of Marshal Soult's famous position in front of St. Jean de Luz. The motto is also on the church at Ciboure in the same neighbourhood; on a house at Négrepélisse; at the Capuchin convent at Cimiez, dated 1789; and, with slight variations, on several dials in Dauphiné. It has been read on the Duomo at Grosseto; at Crespano in Italy; and also on the tower of the Hôtel de Ville at Middleburg, Holland.

1627. WACHET; DENN IHR WISSET NICHT, UM WELCHE STUNDE EUER HERR KOMMEN WIRD. *Watch, for ye know not what hour your Lord doth come.*—St. Matt. xxiv. 42.

At Erstfelden, near Altdorf, Canton Uri, there was in 1863 a dial on the wall of the little village church. It was circular, with the face of the sun at the top, out of which came the gnomon. A full-length skeleton was painted on each side of the dial, like the supporter to an heraldic shield, and appeared to hold it up. Beneath were cross bones

and some words which had become defaced and illegible. The motto was above the dial.

1628. WAN ICH BIN EIN GESCHENCKH VOL,
 SO ZAIG ICH DI STUNDT GER WOL ;
 BIN ICH ABER LEHR,
 SO DIE ALS NIT MER.
*When I am full,
 I show the hour ;
 But when I am empty,
 I do so no more.*

Engraved on the outside of a goblet-shaped dial in the Nuremberg Museum ; made of silver or of copper gilt. The gnomon is attached to the edge of the brim, and its shadow falls upon the numerals which are within the cup. The name of the maker, "Marcus Purman, Monach : fecit," and the date 1590, also appear on the dial.

1629. WASTE NO TIME.

This motto appears twice on a dial at the House of Mercy, Horbury, near Wakefield, which was brought there from Thornhill Churchyard. It is a cross dial, the gnomon being in the shape of a Greek cross, round the base of which this motto and two others (see Nos. 278, 921) are inscribed.

1630. WATCH. St. Mark, xiii. 37.

Inscribed by the Rev. E. Z. Lyttel on his dial at Woodville, Burton-on-Trent.

1631. WATCH AND PRAY. 1735.

On the south wall of Alwalton Church, Huntingdonshire ; and on the church porch of Terrington St. Clement, Norfolk, with the names of the churchwardens, "Mudd and Dewson," but no date. It is also on Laithkirk Church, Yorkshire. It is with No. 1419 on the Church at Isleworth, which dates from 1705 ; the plate is surmounted by a figure of Time with his scythe, and has the hours marked for several distant places, such as Jerusalem, Moscow, etc.

1632. WATCH AND PRAY
 TIME FLIES AWAY.

Over the door of a shop at Leighton Buzzard. The gnomon is surrounded with rays, and below is a small dim landscape view with trees and a windmill. Also on a handsome dial erected in 1889 on the south wall of the western tower of St. Mary's Church, Colebrook, Devon. The dial was the gift of Mr. Charles Turner, of Sydenham, and was designed and executed by Mr. Harry Hems. Colebrook Church dates from the fifteenth century, and contains a mediæval fireplace in the north wall, which is almost unique ; and some very quaint epitaphs

may be read on the monuments. One of these alludes to the art of wrestling, which was much practised in the neighbourhood :

"About this instant rose a strife
Betwixt the claymers Death and Life ;
'Shee's mine,' said Death, saith Life, 'Shee's mine,
I have possession—shee's not thine.'
But Death the stronger and more bold—
Prevayled, and Life gave up her hold.
God parts the strife, takes her from Death againe,
And gives her Life, forever to remaine."

In the churchyard Abraham Cann, a well-known Devonshire wrestler, is buried.

1633.

WATCH AND PRAY
TIME HASTES AWAY.

Once a cottage at Barton, near Darlington; also on the church porch of Lanteglos-by-Fowey, Cornwall; and on a horizontal dial in the churchyard of Westward, Cumberland.

1634.

WATCH AND PRAY
TIME HASTENS AWAY;
WHEN TIME IS DONE
ETERNITY COMES ON.

On a horizontal dial in Mottram Churchyard, Cheshire; with the names of Joshua Andrews and James Goddard, churchwardens, 1811.

1635.

WATCH AND PRAY
TIME STEALS AWAY.
J^{no} Berry fecit 1757.

On St. Peter's Church, Tavistock, Devon, over the south-west porch.

1636. WATCH AND PRAY. TYME IS SHORT.



YARROW KIRK.

"A stone of red sandstone is built into the wall at the western door of Yarrow Kirk, having on it a sun-dial with the above motto. This dial belongs to Deuchar Kirk, which Yarrow superseded, taking its place as well as that of the chapel at Kirkhope, and also of the mother church of St. Mary of the Lowes: the church which "feudal strife laid low," ("Report of the Meetings of the Berwickshire Naturalists' Club," 1883.) The initials I. M. M. and date 1640 also appear, and the maker's initials in a monogram, "R. M. fecit." The Report says that Yarrow Church was built in 1640.

1637. WATCH FOR YE KNO NOT THE HOVRE. 1649.

On a stone with three faces, which was formerly attached to the wall of the south-west corner of St. Anne's Court, Dunbar. Two of the faces bore metal dial-plates, and the motto and date were carved on

the third face. Miss Ritchie, of Barnlea, Dunbar, who has kindly contributed this motto, describes St. Anne's Court as a quaint mansion with two courtyards in front, and the side of one of these was formed by an old building supposed to have been part of the church of St. Anne's, built upon Dunbar Sands. According to the ancient rhyme :

"St. Abb, St. Helen, and St. Bees
They a' built kirks which to be nearest the sea,
St. Abb's upon the Nabs, St. Helen's on the Lea ;
St. Ann's upon Dunbar Sands, stands nearest to the sea !"

The church has long ceased to be used for worship ; the sea has made such inroads on the coast that it now washes the building at high tides, in spite of a stone bulwark. There is a tradition that the dial was originally on the church, and was removed from thence to the Court, when the former was dismantled. Miss Ritchie's grandfather used to live at the Court, and she recollects when there was an old pulpit in the cellar. The property has now passed from her family into other hands, and the dial has been taken by her to Barnlea.

1638. WATCH, FOR YE KNOW NOT THE HOUR.
Inscribed 1862. M. G.

The fine old village church at Ecclesfield, Yorkshire, was externally rebuilt, *circa* 1470. In the middle of the churchyard, on the south side, stands the broken shaft of a cross. Two stone steps form the pedestal which supports it, and it is surmounted by a small copper dial. On the upper step, around the shaft, the late Mrs. Alfred Gatty, the first compiler of this collection, had the above engraved in 1862. On the dial-plate the name of the maker has been



ECCLESFIELD CHURCHYARD.

traced in faint letters, "Andrewes, Sheffield." A correspondent has kindly forwarded the following information :

"In the year 1782, a watch-maker of the name Nathan Andrewes, who carried on business in High Street (as is said), was enticed by a good-for-nothing fellow named Frank Fearn, to walk to Manchester with him there to dispose of some of his wares ; and when passing over the edge of Loxley Common, Andrewes was murdered and robbed by his treacherous companion. When interrogated as to his conduct, the latter equivocated so that he was apprehended, and committed to take his trial at the York Assizes. Here, when the Judges came round, he

was convicted of murder, and sentenced to be hanged. Hanged he accordingly was; and his body was brought back to the place where the murder was committed, and there hung in chains upon a gibbet.

"The manufacture of Dials was a branch of the business of a watch-maker in those times, when sun-dials were more common than they are now. And it appears highly probable that the maker of the dial in question was the Nathan Andrewes who was murdered by Fearn. The murderer's body swung upon that gibbet until the bleak winds and storms that beat over Loxley Edge had destroyed every vestige of what once had been Frank Fearn. The gibbet post was at length removed, and placed across the Loxley stream, where for many years

it served as a natural bridge for grinders employed in the wheels on the Loxley. I remember as a boy cutting a chip from the stump of the gibbet which remained in the ground; and I kept it for some time as a relic of the weird memorial. Whether any portion of the gibbet still remains, I know not."—"AUTOLYCUS."

The same motto is on a dial on St. Margaret's Church, Ormsby, Norfolk.



DRYBURGH ABBEY.

1639. WATCH WHEEL.

This, which was the heraldic motto of Sir Walter Scott, is inscribed on what was once a very graceful cubical dial, having four faces to the different points of the compass, standing on a small column, and surmounted by a pyramid and ball. It was at one time placed in a little shrubbery near the arch of the ruined abbey of Dryburgh, under which lie the mortal remains of the great romance writer, and those of Lady Scott. It is supposed that the date of the dial is 1640. The Haliburton arms and the

initials "T. H." are carved on the eastern slope of the dial stone, and a corresponding shield with "I. C." on the other. At the back is the motto *Fiducia constante*.

A tree which was blown down some years ago unfortunately fell upon the dial stone, breaking the piece which supported the ball at the top. It has never been repaired, and the dial block now lies at the foot of its pillar, and amongst other stones collected from the ruins. The gnomons are gone, but the motto and hour lines can still be traced.

Dryburgh Abbey belonged to the Haliburton family before it came into the possession of the Earls of Buchan, and Robert Haliburton,

grand-uncle of Sir Walter Scott, had settled it by will upon the poet's father, as heir in the maternal line. But this ancient patrimony was lost to the Scotts through Mr. Haliburton's commercial misadventures; "and thus," wrote Sir Walter, in his brief autobiography, "we have nothing left of Dryburgh, although my father's maternal inheritance, but the right of stretching our bones where mine may perhaps be laid ere any eye but my own glances over these pages."

The collector (M. G.) sketched the dial on the 10th August, 1839, and thus wrote :

" ' Watch weel,' lest thieves should enter while ye sleep—
But pray to God His favour to obtain :
Except the Lord Himself the city keep,
The careful watchman waketh but in vain."

1640. WE ARE THE HOURS ON THE PILLAR YOU SEE,
MARKED BY THE SHADOWS THAT EVER FLEE,
AND MOVE WITH THE SUN IN ITS COURSE ON HIGH,
NOTING THE TIME PASSING SWIFTLY BY.
SISTERS ARE WE, THEN WHY ARE WE CLAD
IN JOYFUL ROBES, AND ROBES THAT ARE SAD?
WE WHO HAVE RAYS FROM THE SUN AT MORN
ARE SERVANTS TO THOSE IN THE EAST WHO ARE BORN,
WHO LIVE IN THOSE REGIONS FAR REMOTE,
WHERE THE MEDES AND THE PERSIANS ROUND BABYLON FOUGHT.
WE WHOSE ROBES ARE RED AND BRIGHT
HAVE OUR NAMES FROM THE SUN'S RETREATING LIGHT.
ITALIANS, BOHEMIANS ALL ARE WE,
AND THE BRIGHT RED TINTS OF THE WEST YOU SEE.
WE WHO ARE DARK AND DUSKY IN HUE,
MARK OUT THE HOURS ON THE ZODIAC BLUE,
TO THE PEOPLE OF FRANCE, AND THE PEOPLE OF SPAIN,
WHO LIVE BY THE SIDE OF THE WELTERING MAIN.

These lines are the translation of a Latin inscription (which we have been unable to obtain) on an obelisk dial erected in 1630 in Drummond Castle Gardens by the second Earl of Perth. The shaft is covered with dial hollows of various forms, the centre and wider portion with plane dials. The architect, John Mylne, the third of the name, was the maker. The above rendering of the inscription is by Dr. William Barrack, Rector of Dollar Academy, near Stirling. There are a few more lines at the base of the pedestal, but these are quite illegible.

1641. WE MAY NOT STAY. 1782.

Over the porch of Middleton Church, near Pickering.

1642. WE MUST AND SHALL ERE LONG DYALL.

On a brass dial-plate formerly belonging to the Rev. Vernon Yonge,

and given by him to be placed in the garden of Blackden House, near Crewe, from whence it has unfortunately disappeared. It bore the date 1647, and at the four corners were quarterings of arms belonging to the Yonges of Charnes, Staffordshire, and the family motto, *Et servata fides perfectus amorque dilabunt.*

1643. WE MUST DIE ALL.

On the church porch, Writhlington, Somerset; also on the tower of Redbourne co. Lincoln, with the last two words transposed, and the date 1780. "We must —" may be seen in the engraving of Hogarth's picture of "Chairing the Member," substituted for the motto in the painting, "Pulvis et umbra sumus." The engraver thought he knew better than the artist what was fitting.

1644. WE RESEMBLE THE SHADOW. 1812.

On a large dial of elaborate workmanship, over the porch of Wragby Church, Yorkshire. The church stands within the walls of Nostell Park, near the site of the Priory.

1645. WE SHALL — (scil. Dial, i.e., die-all).

This somewhat cumbrous joke is not uncommon. It may be read in Buxted Churchyard, Sussex, where it is inscribed on an old and rather elaborately engraved horizontal dial dated 1693. It was until 1858 on a dial over the south porch of Bromsgrove Church, Worcestershire, the inscription being in Old English characters. The dial was removed when the church was "restored." *Wee shall* — has been read on a house at Easton, near Stamford; and at Kedleston, in Derbyshire.

An old story connected with this quaint conceit is, that a certain pious cleric, who had seen the inscription "We must" on a sun-dial, and ascertained how the "die all" to conclude the sentence was obtained, ordered the words "we must" to be inscribed on the clock face of his church!

It is a very old witticism. Sylvanus Morgan finishes his work, "Horologiographia Optica," published in 1652, with these words: "So that as I began with the Diall of Life, So we shall Dye all. For *Mors ultima linea.*"

1646. WE SHALL DIE ALL. 1724.

On St. Eval Church, Cornwall; also over the door of Mr. Emmer-son's house, Walgrave, Northamptonshire, the dial being probably of the last century. It was formerly on a building in the Potter Row, Edinburgh, known as the "General's entry." See Sir D. Wilson's "Memorials of Edinburgh," chap. ii., p. 125.

1647. WE SPEND OUR YEARS AS A TALE THAT IS TOLD. Ps. xc. 9.

This text, with No. 528, is cut on a dial column nearly 10 feet high, which was erected in 1840 in the garden at Bredisholm, near

Glasgow. It is described by Mr. Ross as "a massive horizontal dial supporting an octagonal column, from which there juts out in two tiers a series of radiating wings. These wings are carved and sliced into innumerable figures and shapes, . . . There are dials on each corner of the flat table, three of them carved in the stone, and the fourth consisting of a metal plate. There are other contrivances on the table, some of which it is believed served the purpose of a rain-gauge. The maker's name, Alexander Fraser, is below. The whole column is a very remarkable work for a dialler of the nineteenth century to have achieved, when the art of carving pillars of stone into all manner of hollows and planes and drawing dials on every vacant space seemed almost lost. Alexander Fraser was a working mason living in the neighbourhood of Bredisholm, a builder of cottages, an unsuccessful gardener, a stone-cutter who had constant employment in cutting tombstones, and a diligent dial-maker. "Whatever his occupation for the time may have been, he, it appears, always had a dial on hand. He died about 1870." ("Castellated and Domestic Architecture of Scotland," vol. v., page 417.)

1648. WELCOME, CHAPMEN.

On a dial in a market-place. Given in Leadbetter's "Mechanick Dialling," 1756.

1649. WELL-ARRANGED TIME IS THE SUREST SIGN OF A WELL-ARRANGED MIND.

On Prince Albert Victor's dial in the Edinburgh Exhibition, 1886. See No. 1306.

1650. WEN DAS SONNENS STÖCKLEIN RECHT SOL WEISEN
SO RICHT ES NICHT NAHE BEY EISSEN.

*The style will not point right, I fear,
Should there be any iron near.*

On a cube-shaped portarium in the British Museum. Also in Nuremberg Museum. See No. 182.

1651. WENN GOTT WIL, SO IST DAS RECHT ZIL.
When God so wills, that is the rightful term.

On an ivory compass dial made by Hans Ducher, 1578, belonging to Mr. L. Evans. See No. 182.

1652. WHAT I SAY UNTO YOU I SAY UNTO ALL, WATCH.

From St. Mark, xiii. 37, and inscribed on a horizontal dial in the grounds of Derryquin Castle, co. Kerry. The pillar which supports it has at one time formed the gnomon to a dial traced on the circular stone slab on which it stands, but this is now overgrown with grass. The maker's

name, "John Milne, Kenmare," is on the plate, and it was probably put up about 1870.

1653. WHATSOEVER DOETH MAKE MANIFEST IS LIGHT. (Eph. v. 13.)

In Mr. Fryer's garden, Elm Hirst, Wilmslow, Cheshire, on a modern dial. The hour is shown by a small disc of light, "the sun's image brought to a focus by means of a lens. Hence the appropriateness of the motto."

**1654. WHEN JOSHUA FOUGHT AGAINST HIS ENEMIES FORCE
BRIGHT SOL AND LUNA SUDDEN STOPT THEIR COURSE,
AND JAELE'S FEMALE STRENGTH HAD SIS'RA FOUND
THE STARS ASSISTED IN HIS FATAL WOUND,
AND HEZEKIAH'S SUIT FOR LIFE WAS DONE
THEN TEN DEGREES QUITE BACKWARD WENT THE SUN.**

On a pedestal dial in the garden at The Isle, Shrewsbury. It is thought to have been erected by the great-grandfather of the present owner, Humphrey Sandford, Esq., who was born 1718, and died 1791. The dial is shown in a map of the property made in 1745.

**1655. WHEN O'ER THE DIAL GLIDES A SHADE, REDEEM
THE HOUR, FOR LO! IT PASSES LIKE A DREAM;
BUT WHEN 'TIS ALL A BLANK, WE MOURN THE LOSS
OF HOURS UNBLESSED BY SHADOWS FROM THE CROSS.**

At Kempstone Hall, Notts, on a dial in the garden. The gnomon is in the form of a cross. The lines are evidently copied from Mr. Essington's motto (see No. 474) with slight verbal alterations.

**1656. WHEN THOU DOST LOOK UPON MY FACE,
TO LEARN THE TIME OF DAY;
THINK HOW MY SHADOW KEEPS ITS PACE,
AS THY LIFE FLIES AWAY.
TAKE, MORTAL, THIS ADVICE FROM ME
AND SO RESOLVE TO SPEND
THY LIFE ON EARTH, THAT HEAVEN SHALL BE
THY HOME WHEN TIME SHALL END.**

Suggested by Mr. Harrison, Sheffield, as an inscription for a stone dial 18 inches square, dated 1748, which he bought and placed in Garden Plot 59, Totley Brook Estate, Abbeydale, Sheffield, in 1877.

**1657. WHERE NOW YOU STAND THE TIME TO SPY
WHO KNOWS HOW SOON YOU THERE MAY LIE,
BOTH TIME AND PLACE ARE MONITORY
THAT YOU AND THEY ARE TRANSITORY.
HEAVEN IS OUR TEMPLE, DEATH'S THE PORCH,
CHRIST IS THE WAY, HIS WORD OUR TORCH,**

HERE LET US WALK WHILE WE HAVE LIGHT,
TOO LATE BEGINS OUR WORK AT NIGHT.

Formerly at Hadleigh, Suffolk, with Nos. 740, 1393.

1658. WHILE WE HAVE TIME
LET US DO GOOD UNTO ALL MEN. 1868.

From Gal. vi. 10. On the south side of the chancel, Stamfordham Church, Northumberland.

1659. WHILE YOU HAVE TIME DO GOOD.

On a vertical dial made by Mr. E. C. Middleton, and placed in 1897 on his house in Stanmore Road, Birmingham. It shows the signs of the zodiac and the points of the compass as well as the hours, and has created great interest and some wonder amongst the passers-by. Some have conjectured that it had something to do with the telegraph; and others that it was "some sort of an incubator!"

1660. WHILST PHOEBUS ON ME SHINES
THEN VIEW MY SHADES AND LINES.

On the Manx dial now at Barnes Lodge, King's Langley, see No. 161.

1661. WHO DULY WEIGHS THE HOURS.

At Breage in Cornwall, where Mrs. Godolphin was buried. This eminent lady, whose life was written by John Evelyn, one of her most intimate friends, was a daughter of Colonel Blagge, and born in 1652. She became a maid of honour to Queen Catherine at the Court of Charles II., and, in 1675, married Sidney, third son of Sir Francis Godolphin. What especially distinguished her was her pious, modest, and discreet character, whilst living at a court where Christian virtues were strange. She died in 1678, and was buried at Breage, where the Godolphin family had been settled before the Conquest. Her husband was created Earl of Godolphin, and through their great grand-daughter they were ancestors of the Duke of Leeds.

1662. WITH LOVELY PROSPECT AND IN BALMY AIR,
I COUNT ALONE THE FLEETING MOMENTS FAIR;
ALAS! WHATEVER FLOURISHETH MUST FADE;
'TIS BRIGHTEST SUNSHINE MARKS MY DEEPEST SHADE.

Engraved on a stone beneath a dial which stands in a beautiful walk at Pine Banks Tower, Thorpe-next-Norwich. It was erected by J. O. Howard Taylor, Esq., in memory of his wife.

1663. WITH WARNING HAND I MARK TIME'S RAPID FLIGHT
FROM LIFE'S GLAD MORNING TO ITS SOLEMN NIGHT;
YET, THROUGH THE DEAR GOD'S LOVE, I ALSO SHOW
THERE'S LIGHT ABOVE ME BY THE SHADE BELOW.

Inscription on a sun-dial for Dr. Henry J. Bowditch, written by

John Greenleaf Whittier and published in the complete edition of his poems.

1664. WO UNTO US! FOR THE DAY GOETH AWAY, FOR
THE SHADOWS OF THE EVENING ARE STRETCHED OUT.
Jer. vi. 4.

HE MADE THE D AND THE * * * ALSO.
THIS IS THE NIGHT D AND THE DARKNESS ALSO
17 I M I C 67

These lines are on the sides and back of a cube of stone, the fourth face of which has a dial. It was formerly at Clackmarras, Morayshire, and is now in the collection of Mr. Muil, Strypes, near Elgin. The dial is of eighteenth century make.

"How far, how far, O sweet,
The grass beneath our feet
Lies in the even-glow!
Now, on the forward way,
Let us fold hands and pray;
Alas, Time stays,—we go!"
—AUSTIN DOBSON.

1665. WORK TO-DAY, AND PLAY TO-MORROW.

On Turner's Hospital, at Kirkleatham, near Redcar, Yorkshire, with No. 287.

1666. WORK WHILE IT IS DAY. Lat. 53' 28'.

These words from St. John, ix. 4, form the motto on a dial placed by the late J. Sidebotham, Esq., on the south porch of Bredbury Church, Cheshire.

"Swift fly the hours and brief the time
For action or repose;—
Fast flits this scene of woe and crime,
And soon the whole shall close.
The evening shadows deeper fall,
The daylight dies away,
Wake, slumberer, at the Master's call,
And work while it is day!"
H. F. LYTE.

1667. YE KNOW NOT THE HOUR.

On the parish church, Newlyn, near Newquay, Cornwall. The present dial is said to have been put up prior to 1846, to replace one of blue slate which bore the same motto, but was broken.

1668. YET A LITTLE WHILE IS THE LIGHT WITH YOU:
WALK WHILE YE HAVE THE LIGHT. (St. John, xii. 35.)
M. C. 1671

On an old school-house at Aynho, Northants, with No. 284.

1669. YOU HAVE SEEN ME RISE
BUT MAY NOT SEE ME SET.

On a horizontal dial in St. John's Churchyard, Margate. No. 14 is inscribed on the pedestal below.

1670. YOU MAY WASTE BUT CANNOT STOP ME.
 Alex' Rae fecit.

On a wooden dial on the church of King Charles the Martyr, Tunbridge Wells, often spoken of as the "Old Chapel." It was the first church in Tunbridge Wells, built as a chapel-of-ease to Tonbridge between 1678-84, was not consecrated till 1887, and for a century and a half was the only church in the place. In 1684 it was described as a "commodious, beautiful, and elegant structure," and as a specimen of church architecture of that period it has considerable interest. There is no date on the dial, which has recently been repainted, but it probably belongs to the eighteenth century.



Richard II. thus soliloquizes in his dungeon in Pomfret Castle :

"I wasted time, and now doth time waste me.
For now hath time made me his numb'ring clock :
My thoughts are minutes ; and, with sighs, they jar
Their watches on to mine eyes, the outward watch,
Whereto my finger, like a dial's point,
Is pointing still, in cleansing them from tears."

SHAKESPEARE, *Richard II.*, Act v. Sc. 5.

1671. YOU MUST ACCOUNT AT LAST
 FOR ALL YOUR MOMENTS PAST.

On the south buttress of the tower of Haresfield Church, Gloucestershire.

1672. YOUR FACE ALONE MY SECRET FINDS.

On a horizontal dial made by F. Barker and Son, London.

1673. YOUR MINUTES, READER, LEARN TO PRIZE
 THINK WHAT A MINUTE IS TO THOSE THAT DIES.

On Mavesyn Ridware Church, Staffordshire.

1674.

YR HOEDL ER HYD EI HAROS
 ADDERFYDD YN NYDD AC YN NOS.

*Man's life, though be prolonged it may,
 Draws to its close by night by day.*

This motto is one of the most remarkable in the collection. The dial is on the wall of the south transept of St. Cybi's Church at Holyhead. The church is supposed to have been founded by St. Kebius in A.D. 650; but the present nave and greater portion of the building were erected in the reign of Henry VII. On a frieze below the battlements on the south transept, the cognizances of the Tudors are carved, and the inscription, "s̄ts; Kybi ora Pūs"; on the north transept, in a similar position, is "Sanctus Kybi ora pro nobis." The ancient name of Holyhead was *Kybi's Place*.

The motto was contributed by Viscount de Vesci, and the Rev. H. E. Williams, rector of Llanaelhaiarn, discovered the interesting fact that the lines were the two last of a stanza on the month of December, written by a Welsh bard named Aneurin Cwawdrydd, who lived about A.D. 510. He wrote twelve stanzas on the twelve months of the year, and the Rev. R. Williams (Berw), the champion bard, kindly translated that on December for us. Mr. Williams was the chaired bard of the London Eisteddfod. The literal translation of the beginning of the stanza is:

"December month, short day, long night,
 Crow on buds, rushes on moor,
 Silent (are) bees and nightingale."

Then follows a description of boisterous weather without, and in contrast the thought that "a building is happy (and) safe."

The two lines of our motto complete the poem, and are thought to be the summing up of the whole of Aneurin's "Ode to the Months," rather than of this particular stanza.

1675.

ZEIT FEHRT MUST EYL.
 HAST NIT VILWEIL.
 MACH DIR BEREIT
 ZUR EWIGKEIT.

*Time goes with much speed.
 You have not much to spare.
 Be prepared
 For eternity.*

On an engraving of a dial in Franz Ritter's "Speculum Solis." Nuremberg, 1652.

ADDENDA

RECEIVED SINCE THE COMPILATION OF THE ALPHABETICAL LIST OF MOTTOES

1676.

LECTOR MORTALIS
DUM SISTIT HORA :
TIBI FATALIS
VIGILA, ORA.

*Full of fate each hour for thee,
Though thou spend it heedlessly :
Ere its moments pass away,
Mortal reader, watch and pray !*

Written by the Rev. S. E. Bartleet as a motto for a sun-dial

1677.

LUX HUIUS SOLIS VOBIS INDICABIT HORAM.

The light of this sun will show you the hour.

This motto is inscribed below an engraving of the sun's face on a slate horizontal dial. Contributed by J. B. Wood, Esq.

1678.

MAKE TIME, SAVE TIME
WHILE TIME LASTS.
ALL TIME IS NO TIME
WHEN TIME IS PAST.

This motto has been chosen by J. B. Wood, Esq., for a window dial which he is erecting at Henley Hall, Ludlow.

1679.

MIJN UYREN DIE 'KU WÊES, ZIJN IN EEN UUR VERDWENEN ;
DIE MY DE SONTANS LEEND, VLUGT MET MIJN SCHADUW HENEN
EN D'UUR DIE'K MOGELIJCK KRIJGH, ICK NIEMANT WIJSEN KAN,
SY SCHIJNT ALS NOCH BY GOD, EN BLIJST'ER WIJSN VAN.

*My hours which to thee I show, are vanished within an hour.
That which the sun thus lends me, flees with my shadow hence,
And the hour which I fail to catch, I can to no one show ;
Albeit it shines with God and (He) remains the demonstrator thereof.*

This interesting Dutch motto is printed below a sun-dial on the title-page of a work on dialling by Philip Lansbug, "Beschrijvingh du Vlacke Sonne-Wysers," by Jacob Mogge. Folio. Middleburgh, 1675. Mr. Evans contributed the motto.

1680.

VIDE ET VADE.

Look, and pass on.

At Porté (Pyrenées Orientales), over the door of an inn, which is described in H. Spender's "Through the High Pyrenees" as being "a large building, something between a farm house and a palace, without the comfort of the one, or the grandeur of the other. The walls were dirty and unwashed ; but the balconies wore an air of faded nobility, and there was a touch of fallen greatness in the roof. Above the door was a sun-dial, and over it the curt words "*vide et vade.*"

1681.

VIRTUE JOIN : PRECIOUS TIME.

On a pedestal dial which still stands in its original position in Stanley Street, Warrington, a quiet, old-world nook in that busy town. The dial bears the further inscription : "The gift of Peter Winstanley to the Public in Stanley Street, Warrington. 1755."

1682.

ZEIG NUR FEIN OFFT DU SCHONE SONN,

SO HAT EIN FREUT DER HERR PUTON.

*Oh ! beauteous sun pray oft shine bright,**That Herr Puton may have delight.*

On a small white marble horizontal dial dated 1757, bought at Puttick and Simpson's by J. B. Wood, Esq.



SILVER POCKET DIAL

(IN THE POSSESSION OF THE REV J. STACYE).

APPENDIX
ON THE
CONSTRUCTION OF SUN-DIALS
BY
J. WIGHAM RICHARDSON.

CONTENTS

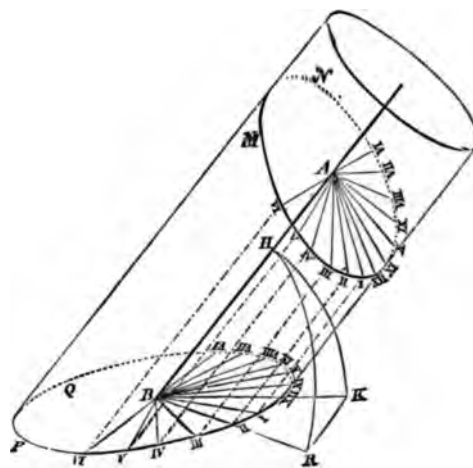
	PAGE
Sir Norman Lockyer's description	489
Works on Dialling	489
Different kinds of dials	490
Astronomical principles	490
Geometrical terms	490
Horizontal dials	492
Wall dials facing south	493
Wall dials declining west	493
Wall dials declining east	494
Trigonometrical methods	495
Equation of Time	495
True mean time dials	496
Dial at Monaco	497
Size and materials	498
To orient a Sun-dial	498
Conclusion	498

TABLES

Apparent Declination of the Sun and the Equation of Time at noon for each day in the year 1899	500-503
---	---------

ON THE CONSTRUCTION OF SUN-DIALS

IN this short chapter I shall confine myself, as far as may be, to the mechanical construction of sun-dials. Those who wish to study the theory may refer to any encyclopædia, and almost all works on astronomy have something to say on the subject. The student who will take the trouble to master thus the whole subject will not fail to find it at once interesting and highly instructive. But by the courteous permission of Sir Norman Lockyer and Messrs. Macmillan I am permitted to reproduce the woodcut from the "Elementary Lessons in Astronomy," which shows at a glance the theory of a sun-dial, and Sir Norman's description is both clear and concise, viz.: "To understand the construction of a sun-dial, let us imagine a transparent cylinder, having an opaque axis, both axis and cylinder being placed parallel to the axis of the earth. If the cylinder be exposed to the sun, the shadow of the axis will be thrown on the side of the cylinder away from the sun; and as the sun appears to travel round the earth's axis in 24 hours, it will equally appear to travel round the axis of the cylinder in 24 hours, and it will cast the shadow of the cylinder's axis on the side of the cylinder as long as it remains above the horizon. All we have to do, therefore, is to trace on the side of the cylinder 24 lines, 15 degrees apart ($15 \times 24 = 360$), taking care to have one line on the north side. When the sun is south at noon, the shadow of the axis will be thrown on this line, which we may mark XII; when the sun has advanced one hour to the west, the shadow will be thrown on the next line to the east, which we may mark I o'clock, and so on."



SUN-DIAL. AB, axis of cylinder; MN, PQ, two sun-dials, constructed at different angles to the plane of the horizon, showing how the imaginary cylinder determines the hour lines.

I can also recommend the following works, viz.:

"Clocks, Watches and Bells," by Edmund Beckett Denison, published by John Weale, 1860. This work contains an account of the Dipleidoscope, invented by J. M. Bloxam, by which form of sun-dial Mr. Dent, the maker of the Westminster clock, used to rate his chronometer.

"Dialling," by William Leybourn, published by A. and J. Churchill, 1700. This is the most exhaustive work which I know on sun-dials of every form and shape.

"Treatise on Dialling," by Peter Nicholson, published in Newcastle-on-Tyne, 1833. This last is perhaps the clearest work of all on the construction of sun-dials, but it requires some patience to master the author's method of projection.

Sun-dials may be either *fixed* or *portable*. For the latter I would refer the student to the new edition of the "Encyclopædia Britannica."

Fixed sun-dials may be in any plane. That is to say, the dial itself may be *horizontal* or sloping (usually called *inclining*), or *vertical*, as on the wall of a house, in which case they may face in any direction, and if not facing due south they are usually called *declining*, or the dial may be spherical or cylindrical and either convex or concave.

Again a dial may either be opaque, as is usually the case, or the shadow may be cast upon a window of ground glass. This latter type is called *refractive*, and it is a singularly elegant form, having the advantage, very suited to our climate, of being observable from indoors, and the shadow of the gnomon will appear to go round the same way as the hands of a clock, instead of the reverse way, as must be the case in a wall sun-dial.

A further variety of sun-dials are those called *reflective*. In the numbers of "Aunt Judy's Magazine" for March and April, 1878, there is a charming account of how Sir Isaac Newton placed a mirror on the floor of his room which reflected the sun's rays on to the ceiling, upon which the hour lines were traced.

I propose to explain the way to construct two kinds of sun-dials only, viz., *horizontal* dials and *wall* dials, the latter facing either due south or facing towards the east or towards the west.

The gnomon, or stile of the sun-dial, must always be parallel to the polar axis of the earth. Otherwise expressed, the gnomon must always point to the pole star, or to speak more precisely, to the centre round which the pole star appears to revolve.

The simplest form of a sun-dial is a watch face marked to 24 hours, *i.e.*, 12 and 12 hours, with a wire passed through the centre hole. Stretch the wire so as to point to the pole star and place the mark for XII or noon at the bottom, and you have a complete but inconvenient form of sun-dial; inconvenient because the shadow would sometimes fall on the upper and sometimes on the lower face.

Another simple form is a concave half cylinder or half sphere, with a wire stretched down the middle, and on the surface where the cylinder (or sphere) has been cut in two, the hour lines will be at equal distances of 15 degrees apart. This form of dial will, however, evidently only show the time between 6 a.m. and 6 p.m.

In a horizontal dial, the angle of the gnomon will always be equal to the latitude of the place. In a vertical sun-dial facing due south, it will equal the complement of the latitude, or in other words it will equal 90 degrees minus the latitude, *i.e.*, what is left of a right angle after deducting the angle of the latitude. The woodcut, Fig. 1, will make this clear to anyone having the least knowledge of geometry.

Let E E be the equator of the earth.

C P the polar axis.

L the position of the sun-dial on the earth's surface.

The angle, E C L, will be the latitude of the place.

The level of the earth's surface, and of the horizontal dial at L will be the line, T P, which is a tangent to C L, the radius.

The line A L G will be the gnomon, parallel to C P, the polar axis.

It is evident that the angle G L P, the angle of the gnomon, is equal to the angle E C L, which is the latitude. Q.E.D.

But the angle GLP is equal to the latitude, therefore the angle of the gnomon in a wall dial is the complement of the latitude. *Q.E.D.*

Draw an arc of a circle with the radius 60, and then open the compasses to the required angle, as shown on the scale, and so mark off the angle required. This



There is also another Scale, called the Scale of Half Tangents, but it would be more correct to call it the Scale of Tangents of half the angle.

On the left side of the centre in Fig. 2 the small italic letters indicate the chord, etc., for 30 degrees, thus :

xd is called the Chord of the Arc of 30 degrees.

ds is called the Tangent of 30 degrees.

nx is called the Sine of 30 degrees.

Cs is called the Secant of 30 degrees.

It is evident that the angle may be set off by either of the three Scales of Chords, of Tangents, or of Sines, but the Scale of Chords is the most convenient. All are more accurate than the brass semicircle sometimes called a protractor.

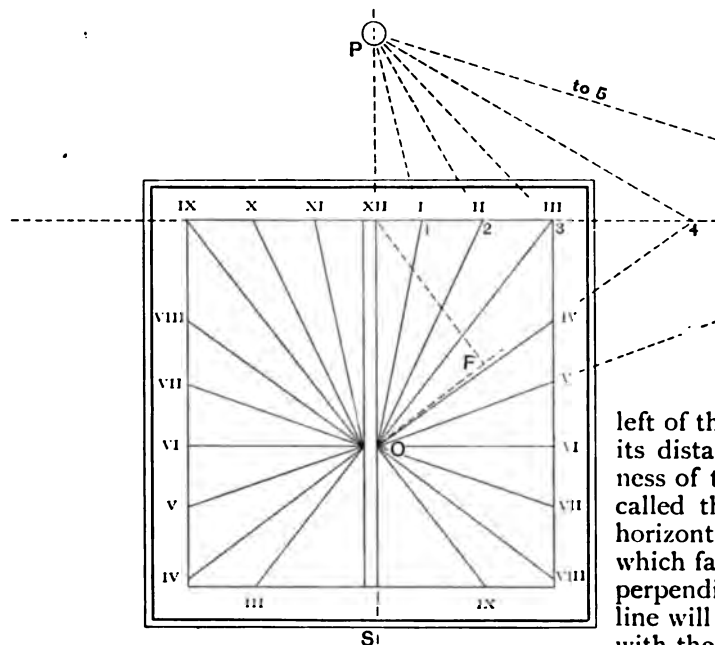


FIG. 3.

To construct a Horizontal Sun-dial for the latitude of 54 degrees. Fig. 3.—Draw a square or rectangle, as shown in Fig. 3, and near the centre draw a perpendicular line P S. On the left of this draw a parallel line, and make its distance from P S equal to the thickness of the gnomon. This double line is called the substile (or substyle). In all horizontal dials, and in all wall dials which face due south, the substile will be perpendicular, and the VI o'clock hour line will be horizontal or at right angles with the substile.

At any convenient point draw the horizontal line VI O VI, cutting the substile in O.

Draw O F, making the angle XII O F equal to the latitude of 54 degrees.

Draw XII F perpendicular to O F.

Make XII P equal to XII F.

Extend the top line on each side as shown.

The angle of an hour is 15 degrees. Draw lines P 1, P 2, P 3, P 4, and P 5, so that the angles at P are each 15 degrees.

Then the true hour lines of the dial will be drawn from O to the points 1, 2, 3, 4, and 5. The VI o'clock line will be horizontal as already drawn, and the hours before VI a.m. and after VI p.m. will be continuations of the hour lines above the VI o'clock lines, taking care to allow for the thickness of the gnomon.

If the dial be divided into half and quarter hours, or into minutes; the angles must be correctly set off at P.

The gnomon will be a right-angled triangle, having one angle of 54 degrees at O, and placed on the substile O XII.

Fig. 4.—Another method is as follows, and for the sake of clearness in this and in the subsequent examples I assume the gnomon to have no thickness.

Describe a circle N E S W, and draw the lines N S perpendicular, and E W horizontal.

From S, set off by the Scale of Chords, the arc S *a* equal to the latitude or 54 degrees, and from W set off the arc W *b* also 54 degrees.

Describe the arc of a circle $W\hat{A}E$. This may be done by trial or from the centre, C , making $\hat{A}EC$ equal to the Sacant of 36 degrees, for 36 is the complement of 54 . That is to say, $36 + 54 = 90$ degrees.

From O draw O8, cutting the arc WÆE in 8₁.

Draw VIII X O VIII, which will be the VIII o'clock hour-line.

The gnomon will be a right angled triangle, having one angle of 54 degrees, and placed on the substile N O, with the 54 degree angle at O.

It is advisable to use both methods so as to correct any error.

To construct a Wall Sun-dial, facing due South, for the latitude of 54 degrees, the above methods may be followed, the only difference being that the *complement of the latitude* must be taken in every case in lieu of the latitude, that is (in our example) 36 in lieu of 54 degrees. (Figs. 3 and 4.)

Similarly the Secant of 54 degrees must be taken instead of the Secant of 36 degrees. (Fig. 4.)

If a horizontal and a wall dial be drawn, the one on the bottom and the other on the side of the inside of a box, the gnomon will be common to both, and the hour-lines of the respective dials will join where the bottom and the side of the box meet.

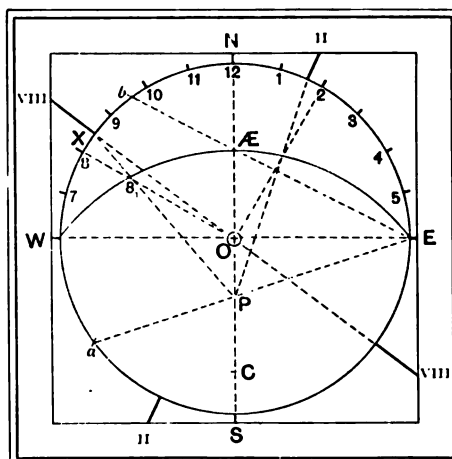
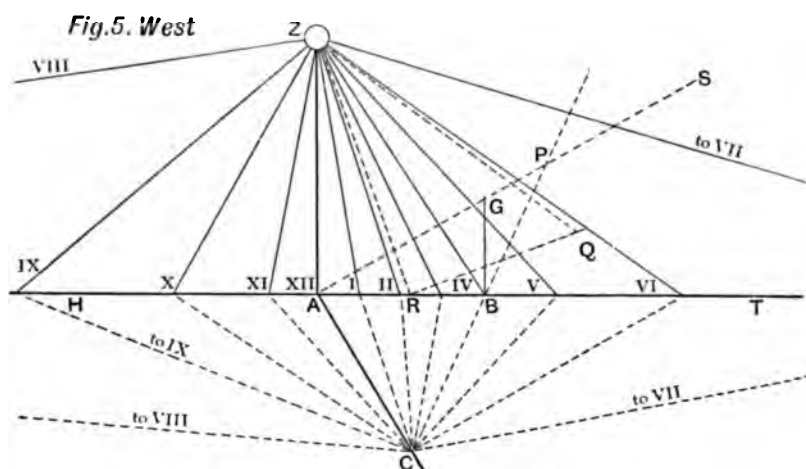


FIG. 4.



To construct a Wall Sun-dial for the latitude of 54 degrees, declining from the South towards the West 30 degrees. Fig. 5.—Draw a horizontal line H T.

From any point A in this line draw a line A S, making the angle T A S equal to 30 degrees.

If the dial had been declining towards the East this line A S would be drawn to the left instead of to the right.

Draw A Z perpendicular to H T, and A C perpendicular to A S.

Make A C the XII o'clock or meridian line of a horizontal dial, and draw its hour-lines, C I, C II, C III, etc., and C XI, C X, C IX, etc., as explained *ante*.

Draw C P, cutting A S in P, and H T in B, and make the angle A C P equal to the latitude or 54 degrees.

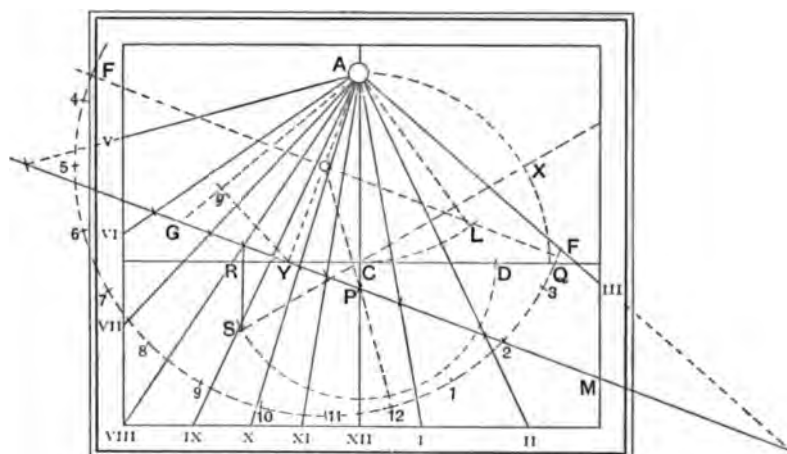
Make A Z equal to A P. Then is Z the centre of the declining dial, and lines drawn from Z to I, II, III, etc., will be the true hour-lines of the declining dial.

To find the position of the substile, draw B G perpendicular to H T, and cutting A S in G.

Make A R equal to B G, and join Z R. Then will Z R be the position of the substile.

From R draw R Q perpendicular to Z R, and make R Q equal to A B.

Fig. 6. East



The angle R Z Q will be the angle of the gnomon.

Fig. 6.—Another method is as follows, and let us in this case take a wall sundial declining 30 degrees from the south towards the *East*.

Upon C as a centre, with the radius C A, describe the quadrant A X Q, and with the same radius from A (which shall be the centre of the dial) describe the arc C L, and with the Scale of Chords make the arc C L equal to 36 degrees, the complement of the latitude, and draw the horizontal line R C Q.

Draw A L D, cutting R Q in D.

Cut off from Q to A the arc Q X equal to 30 degrees, the declination of the dial.

Join X C, prolonging the line down to S.

From the centre C with the radius C D describe the arc D S.

Draw S R perpendicular to R D.

Make C Y equal to S R, and join A Y.

Then will A Y be the position of the substile.

Through Y draw the long line G Y P M perpendicular to A Y.

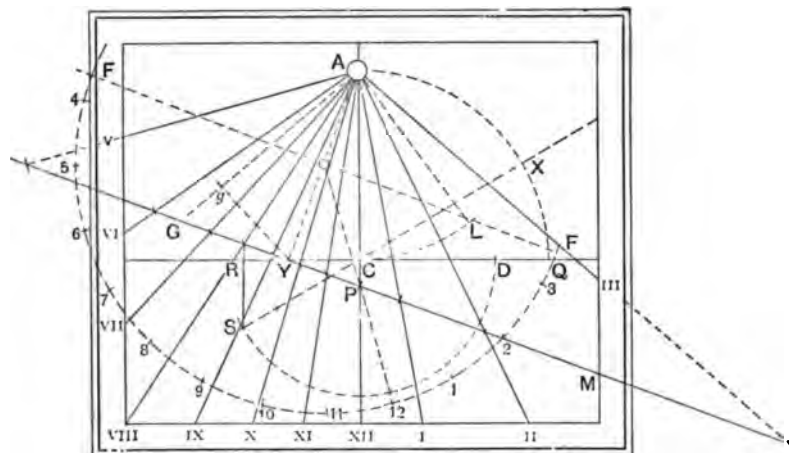
Make Y G equal to C R, and join A G.

Then will the angle $Y A G$ be the angle of the gnomon.

From Y draw $Y g$ perpendicular to $A G$, and make $Y O$ equal to $Y g$.

Then will O be the centre of the equinoctial circle. Draw one half of this circle with any radius from F to F , making $F F$ parallel to $G Y P M$.

Fig. 6. East



Draw $O P 12$, cutting the equinoctial circle in 12.

From 12 lay off arcs of 15 degrees each, as at 1, 2, 3, etc., and 11, 10, 9, etc.

From O draw lines $O 1$, $O 2$, etc., and $O 11$, $O 10$, etc., cutting the line $G Y P M$ in 1, 11, etc., and XI., X., etc.

Then the true hour lines will be drawn from A to 1, 11, etc., and to XI., X., IX., etc.

Dialling Scales.—The simplest of all methods of dialling is by the use of dialling scales as explained in Ferguson's astronomy, by means of which the hours and minutes may be measured off as simply as inches from a foot rule. Such scales have not hitherto been obtainable, at least not of a size to be of any use; but they are now made and sold, along with directions for using them, by Mr. E. C. Middleton of Stanmore Road, Birmingham, a practical diallist who also undertakes the setting out of dials in *any* plane.

Trigonometrical Calculations.—There are various other methods of delineating sun-dials, but I think that those which I have given are the simplest. It can never be amiss, however, to check the geometrical or projective methods by trigonometrical calculations which are fully explained and illustrated in Leybourn's work.

Equation of Time.—A sun-dial will only agree with the clock on four days in the year.

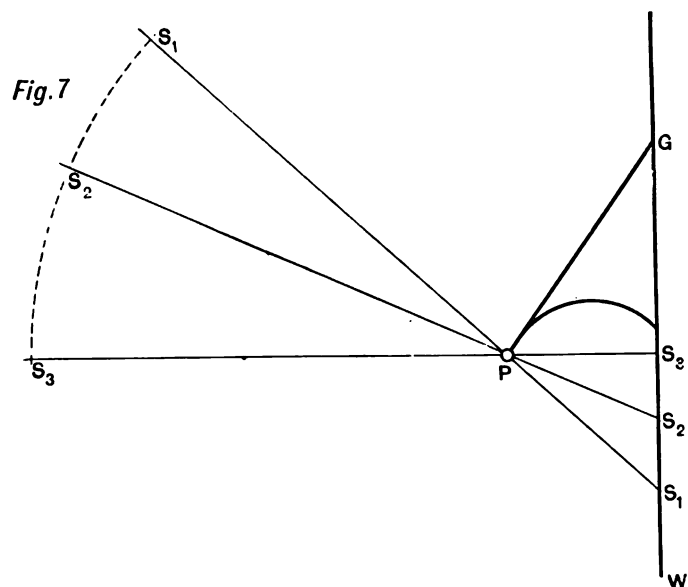
There are two reasons for the two not agreeing. One is that we divide the year into 365 days, whereas there are really about $365\frac{1}{4}$ days in the twelvemonth, the other is due to the revolution of the earth round the sun.

In the appended tables the number of minutes and seconds which must be added to or deducted from sun-dial time (called apparent time), are given for every day in the year 1899.

The equation and declination are not quite the same every year. They move on annually about a quarter of a day until leap year comes and puts them back again.

It is always well to engrave such a table (more or less in extenso) on the sun-dial itself, unless it be graphically shown by a curve, as I shall now proceed to describe.

To construct a sun-dial which at noon on each day of the year shall show true mean time. Figs. 7, 8, and 9.—Let G W (Fig. 7) be the face in section of a wall sun-dial, and G P the gnomon thereof.



When the sun at noon (Fig. 7) on the 21st of June is high in the heavens, as at S_1 , it will cast the shadow of P on the dial at s_1 .

In the Spring or Autumn, when the sun is at S_2 , it will cast P's shadow at s_2 .

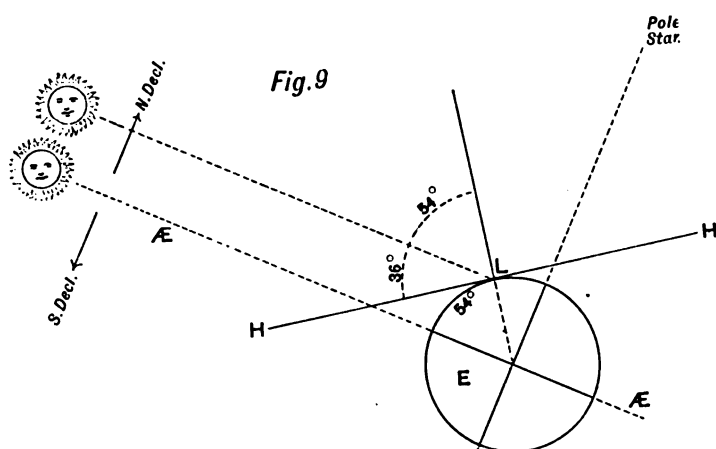
When the sun is on the horizon, as at S_3 , it will cast the shadow of P horizontally to s_3 .

In the tables will be found the sun's apparent declinations, which means the distance of the sun at noon for each day of the year north or south of the heaven's equator in 1899 (Fig. 9).

Let E be the earth, and ÆÆ the line of the equator extended to the heavens.

Through L draw a tangent H H, which will represent the horizon at the latitude L, say 54 degrees north.

Inasmuch as, on account of its great distance from the earth, a line drawn from the



sun to L will be practically parallel to the line drawn from the sun to the centre of the earth, the sun when on the celestial equator will at L appear to be 36 degrees above the horizon. But 36 degrees is the co-latitude.

Wherefore the altitude of the sun at noon above the horizon can be ascertained for any day in the year by adding to the co-latitude of the place the

north declination or subtracting the south declination respectively, as the case may be.

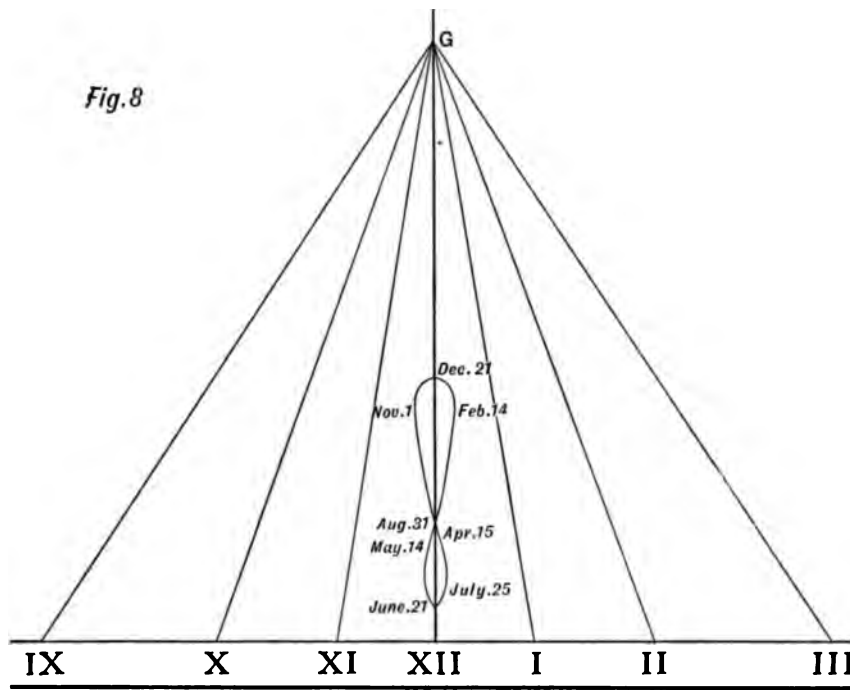
Fig. 7.—Construct a table of altitudes as above, and set off from s_1 to w , by the scale of sines, or of tangents, the distances $s_1, s_2, \dots, s_1, s_1, \dots$ etc.

Or, set the angles off along the arc by the scale of chords.

Fig. 8.—Having now ascertained the vertical height of the shadow of P for every day in the year, transfer them to the face of the dial, and write the dates opposite each line.

From the table of the equation of time set off the number of minutes and seconds on the right or the left of the meridian line according as they have to be added or subtracted, and you will have a series of points forming a curve like a figure of eight.

If the above is done with accuracy when the shadow of P falls on the curve,



you will not only have the true mean time (subject only to the slight error for Leap year, which will average only about $\frac{1}{4}$ minute), but you will have the day of the month as well.

By the true mean time I mean the mean or clock time for the longitude of the place. If it is desired to show Greenwich clock time you must move the figure of eight to the right or to the left, as the case may be, or otherwise state on the sun-dial how many minutes the place is before or after Greenwich time. This latter will probably be considered the better plan.

Such a sun-dial as the above is of real value in country places. There is a fine example on the Guard House at the Palace of the Prince of Monaco, and there the end of the gnomon is flattened out to a disc with a hole in the centre having knife edges, and when I saw it the bright sun of Italy cast a clear spot of

light about the size of a shilling on the lines of the curve, which, as well as the hour lines, were about $\frac{1}{4}$ inch broad. The sun-dial itself must have been 12 or 14 feet high.

On the size, the material, and the fabrication of sun-dials.—I sometimes think that when our architects are fain to put in a blank window to relieve part of the wall of a house, they might give us a sun-dial of large dimensions in place thereof. A sun-dial can hardly be too large, and it might very well cover the whole end of a barn, or even of a house.

If made of small size as is usual in England, the best material for horizontal dials is brass, and for wall dials slate, or marble, or granite.

In all cases the dial itself, or a full-sized model, should be made first in the workshop.

To orient a sun-dial.—It will be useless to make a dial accurately, unless it be truly placed as regards the points of compass.

I recommend the following procedure in fixing a horizontal dial.

First consult a large Ordnance map (scale of an acre to a square inch), and place your dial approximately due north and south. Then level it by means of a spirit level.

Correct the line of the gnomon both by a compass and by the sun at noon, as rectified for the equation of time.

Then at the distance of some four or five yards north of the dial drive two long poles into the ground with a cross-piece at the top, like a tall Greek letter Π . The like, but not so tall, to the south of the dial.

Hang both north and south plummet lines, and during the day make the two lines and the gnomon in one line.

Ask any astronomical friend, or any ship's captain, at what hour the pole star crosses the meridian, at that hour get the two plummet lines in a line with the pole star.¹ Be careful in doing this to move the one as much to the right as the other to the left, for otherwise the gnomon will not be in the same line.

Having got the plummet lines true to the pole star, it will not be difficult in the morning to adjust the gnomon.

For a wall declining dial the plan will be similar, but it will be necessary for one pair of the poles to project above the eaves.

I shall be much gratified if this appendix to the Book of Sun-dials adds to its value. If any youthful reader will take the trouble to construct a sun-dial he will find that it will teach him more astronomy than a course of popular lectures could afford him, and he will almost surely be led to study further the mysteries of the great firmament on high, and in so doing he will every year of his life more and more marvel at the extent of the Divine power and wisdom, and be prepared hereafter, when we shall no longer see only as through a glass darkly, to truly enjoy that fuller knowledge which will be one of the joys which an infinite Love destines for us above.

On a tomb in Westminster Abbey you may read :

“Man's life is measured by the workes, not dayes,
No slothful age, but active youth hath prayse.”

¹ The pole star is on or very near the meridian when the star ϵ Ursæ Majoris appears to be either directly above or directly below it. The star ϵ Ursæ Majoris is the third star (counting from the tip) of the tail of the Great Bear.

which suggested the following lines in a lady's album :

Our neighbours of a southern clime,
forgetting the true gauge of Time,
in their bright tongue have coined the phrase
(suggestive of luxurious ways)
of "dolce far niente."

But "carpe diem" is the rule,
which we, dear friend, were taught at school ;
each day more swiftly fleets away,
the gnomon's shadow will not stay,
"old Time is still a-flying !"

But oh ! we need not fear his flight,
each day is long if spent aright,
that year is long where much is wrought,
'tis sloth alone we count as nought,
the cypher of existence.

The keen steel blade may wear away,
but rust more surely brings decay ;
ah ! then of cankering sloth beware,
bright be thy steel with work and wear,
its temper true and trusty.

Then should our mortal foe appear
and from thy life cut half its years,
say not that shortened is that life,
say rather ended is the strife ;—
beyond the grave thy resting.

J. W. R.

NEWCASTLE-UPON-TYNE,
September, 1899.

1899. JANUARY.			FEBRUARY.			MARCH.		
NOON.		Equation of Time, to be added to Apparent Time.	NOON.		Equation of Time, to be added to Apparent Time.	NOON.		Equation of Time, to be added to Apparent Time.
Day of the Month.	Apparent Declination.		Apparent Declination.	Apparent Declination.				
	^o ['] ["]	^m ^s	^o ['] ["]	^m ^s	^o ['] ["]	^m ^s		
1	S. 23 0 14	3 47	S. 17 4 19	13 48	S. 7 32 57	12 31		
2	22 54 59	4 15	16 47 3	13 55	7 10 6	12 19		
3	22 49 18	4 43	16 29 30	14 2	6 47 9	12 6		
4	22 43 9	5 10	16 11 39	14 8	6 24 6	11 53		
5	22 36 33	5 37	15 53 32	14 13	6 0 58	11 40		
6	22 29 30	6 4	15 35 8	14 17	5 37 44	11 26		
7	22 22 1	6 30	15 16 28	14 21	5 14 26	11 11		
8	22 14 5	6 56	14 57 33	14 23	4 51 4	10 57		
9	22 5 42	7 21	14 38 22	14 25	4 27 38	10 42		
10	21 56 54	7 45	14 18 57	14 26	4 4 8	10 26		
11	21 47 40	8 9	13 59 18	14 27	3 40 35	10 10		
12	21 38 1	8 33	13 39 24	14 26	3 17 0	9 54		
13	21 27 56	8 56	13 19 18	14 25	2 53 23	9 38		
14	21 17 27	9 18	12 58 58	14 23	2 29 44	9 21		
15	21 6 33	9 39	12 38 27	14 20	2 6 3	9 4		
16	20 55 15	10 0	12 17 43	14 17	1 42 21	8 47		
17	20 43 33	10 20	11 56 47	14 13	1 18 39	8 30		
18	20 31 28	10 39	11 35 40	14 8	0 54 56	8 12		
19	20 18 59	10 58	11 14 22	14 2	0 31 14	7 55		
20	20 6 8	11 16	10 52 54	13 56	S. 0 7 32	7 37		
21	19 52 54	11 33	10 31 16	13 49	N. 0 16 9	7 19		
22	19 39 18	11 49	10 9 28	13 41	0 39 49	7 0		
23	19 25 20	12 5	9 47 31	13 33	1 3 27	6 42		
24	19 11 1	12 19	9 25 25	13 24	1 27 4	6 24		
25	18 56 20	12 33	9 3 11	13 15	1 50 39	6 5		
26	18 41 19	12 46	8 40 49	13 4	2 14 11	5 47		
27	18 25 58	12 59	8 18 19	12 54	2 37 40	5 28		
28	18 10 16	13 10	7 55 42	12 43	3 1 6	5 10		
29	17 54 15	13 21	S. 7 32 57	12 31	3 24 29	4 51		
30	17 37 55	13 31			3 47 48	4 33		
31	17 21 16	13 40			4 11 3	4 15		

SUN-DIALS TABLES

501

1899.			APRIL.			MAY.			JUNE.		
NOON.		Equation of Time, to be added to subt. from Apparent Time.	NOON.		Equation of Time, to be subtracted from Apparent Time.	NOON.		Equation of Time, to be subt. from added to Apparent Time.			
Day of the Month.	Apparent Declination.		Apparent Declination.	Apparent Declination.							
	° ' "	m s	° ' "	m s	° ' "	m s					
1	N. 4 34 13	3 57	N. 15 5 46	2 59	N. 22 4 3	2 25					
2	4 57 19	3 38	15 23 47	3 6	22 12 0	2 16					
3	5 20 19	3 21	15 41 32	3 13	22 19 34	2 6					
4	5 43 14	3 3	15 59 2	3 19	22 26 44	1 56					
5	6 6 3	2 45	16 16 16	3 25	22 33 31	1 46					
6	6 28 45	2 28	16 33 14	3 30	22 39 55	1 35					
7	6 51 22	2 11	16 49 56	3 34	22 45 54	1 24					
8	7 13 51	1 54	17 6 21	3 38	22 51 29	1 13					
9	7 36 13	1 37	17 22 28	3 41	22 56 41	1 1					
10	7 58 27	1 21	17 38 19	3 44	23 1 28	0 50					
11	8 20 33	1 5	17 53 51	3 46	23 5 51	0 37					
12	8 42 31	0 49	18 9 6	3 47	23 9 49	0 25					
13	9 4 20	0 33	18 24 2	3 48	23 13 23	0 13					
14	9 25 59	0 18	18 38 40	3 48	23 16 32	0 0					
15	9 47 30	0 3	18 52 58	3 48	23 19 17	0 11					
16	10 8 51	0 11	19 6 58	3 48	23 21 37	0 24					
17	10 30 1	0 25	19 20 38	3 46	23 23 33	0 37					
18	10 51 1	0 39	19 33 59	3 44	23 25 3	0 50					
19	11 11 50	0 52	19 46 59	3 42	23 26 9	1 3					
20	11 32 28	1 5	19 59 39	3 39	23 26 50	1 16					
21	11 52 55	1 18	20 11 59	3 36	23 27 6	1 29					
22	12 13 10	1 30	20 23 58	3 32	23 26 58	1 42					
23	12 33 13	1 42	20 35 37	3 27	23 26 25	1 55					
24	12 53 4	1 53	20 46 54	3 22	23 25 27	2 7					
25	13 12 41	2 4	20 57 49	3 17	23 24 4	2 20					
26	13 32 6	2 15	21 8 23	3 11	23 22 17	2 33					
27	13 51 18	2 25	21 18 36	3 4	23 20 5	2 45					
28	14 10 16	2 34	21 28 26	2 58	23 17 28	2 57					
29	14 29 0	2 43	21 37 54	2 50	23 14 27	3 9					
30	14 47 30	2 51	21 47 0	2 42	23 11 1	3 21					
31			21 55 43	2 34							

1899.			JULY.			AUGUST.			SEPTEMBER.						
NOON.			Equation of Time, to be added to Apparent Time.	NOON.			Equation of Time, to be added to Apparent Time.	NOON.			Equation of Time, to be subtracted from Apparent Time.				
Day of the Month.	Apparent Declination.			Apparent Declination.				Apparent Declination.							
	°	'	"	m	s	°	'	"	m	s	°	'	"	m	s
1	N. 23	7	11	3	33	N. 18	1	21	6	6	N. 8	16	30	0	5
2	23	2	57	3	45	17	46	5	6	3	7	54	38	0	23
3	22	58	18	3	56	17	30	32	5	58	7	32	40	0	43
4	22	53	15	4	7	17	14	41	5	53	7	10	33	1	2
5	22	47	48	4	17	16	58	34	5	48	6	48	20	1	22
6	22	41	58	4	28	16	42	10	5	42	6	26	0	1	42
7	22	35	44	4	38	16	25	30	5	35	6	3	34	2	2
8	22	29	6	4	47	16	8	34	5	27	5	41	1	2	22
9	22	22	5	4	57	15	51	23	5	20	5	18	23	2	43
10	22	14	41	5	5	15	33	56	5	11	4	55	40	3	3
11	22	6	54	5	14	15	16	15	5	2	4	32	52	3	24
12	21	58	44	5	22	14	58	19	4	52	4	9	59	3	45
13	21	50	12	5	29	14	40	8	4	42	3	47	2	4	6
14	21	41	17	5	36	14	21	44	4	31	3	24	1	4	27
15	21	32	0	5	42	14	3	6	4	20	3	0	56	4	48
16	21	22	21	5	48	13	44	15	4	8	2	37	48	5	10
17	21	12	20	5	54	13	25	11	3	55	2	14	37	5	31
18	21	1	58	5	59	13	5	54	3	42	1	51	23	5	52
19	20	51	15	6	3	12	46	25	3	29	1	28	7	6	13
20	20	40	11	6	7	12	26	43	3	15	1	4	49	6	35
21	20	28	45	6	10	12	6	50	3	0	0	41	29	6	56
22	20	17	0	6	12	11	46	46	2	45	N. 0	18	8	7	17
23	20	4	53	6	14	11	26	30	2	30	S. 0	5	14	7	38
24	19	52	27	6	16	11	6	3	2	14	0	28	38	7	59
25	19	39	41	6	17	10	45	25	1	58	0	52	1	8	19
26	19	26	35	6	17	10	24	37	1	41	1	15	26	8	40
27	19	13	10	6	17	10	3	39	1	24	1	38	50	9	0
28	18	59	25	6	16	9	42	31	1	7	2	2	13	9	20
29	18	45	22	6	14	9	21	14	0	49	2	25	35	9	40
30	18	31	0	6	12	8	59	48	0	31	2	48	56	9	59
31	18	16	20	6	10	8	38	13	0	13					

SUN-DIALS TABLES

503

1899.			OCTOBER.			NOVEMBER.			DECEMBER.		
NOON.		Equation of Time, to be subtracted from Apparent Time.	NOON.		Equation of Time, to be subtracted from Apparent Time.	NOON.		Equation of Time to be subt. from added to Apparent Time.			
Day of the Month.	Apparent Declination.		Apparent Declination.	Apparent Declination.							
	° ' "	m s	° ' "	m s		° ' "	m s				
1	S. 3 12 16	10 19	S. 14 27 27	16 19	S. 21 49 38	10 50					
2	3 35 33	10 38	14 46 34	16 20	21 58 44	10 27					
3	3 58 48	10 56	15 5 27	16 20	22 7 24	10 3					
4	4 22 0	11 15	15 24 5	16 19	22 15 39	9 39					
5	4 45 9	11 33	15 42 27	16 18	22 23 28	9 14					
6	5 8 15	11 50	16 0 34	16 15	22 30 51	8 49					
7	5 31 17	12 7	16 18 25	16 12	22 37 47	8 23					
8	5 54 14	12 24	16 36 0	16 8	22 44 16	7 57					
9	6 17 7	12 40	16 53 18	16 3	22 50 19	7 30					
10	6 39 54	12 56	17 10 18	15 58	22 55 55	7 3					
11	7 2 36	13 12	17 27 1	15 51	23 1 3	6 35					
12	7 25 13	13 27	17 43 25	15 44	23 5 44	6 7					
13	7 47 43	13 41	17 59 31	15 36	23 9 58	5 39					
14	8 10 6	13 55	18 15 18	15 27	23 13 44	5 10					
15	8 32 23	14 9	18 30 46	15 17	23 17 2	4 42					
16	8 54 32	14 22	18 45 54	15 6	23 19 52	4 12					
17	9 16 34	14 34	19 0 43	14 55	23 22 14	3 43					
18	9 38 28	14 46	19 15 11	14 43	23 24 9	3 14					
19	10 0 13	14 57	19 29 18	14 29	23 25 35	2 44					
20	10 21 50	15 8	19 43 4	14 15	23 26 32	2 14					
21	10 43 17	15 18	19 56 29	14 1	23 27 2	1 45					
22	11 4 35	15 27	20 9 32	13 45	23 27 3	1 15					
23	11 25 43	15 36	20 22 13	13 29	23 26 36	0 45					
24	11 46 41	15 43	20 34 31	13 11	23 25 40	0 15					
25	12 7 29	15 50	20 46 26	12 53	23 24 17	0 14					
26	12 28 5	15 57	20 57 58	12 35	23 22 24	0 44					
27	12 48 30	16 2	21 9 7	12 15	23 20 4	1 14					
28	13 8 43	16 7	21 19 51	11 55	23 17 16	1 43					
29	13 28 43	16 11	21 30 12	11 34	23 13 59	2 13					
30	13 48 31	16 15	21 40 7	11 12	23 10 14	2 42					
31	14 8 6	16 17			23 6 2	3 11					

NOTES

EARLY ENGLISH DIALS

CHAPTER III., P. 51. DIAL ON THE CROSS AT BEWCASTLE

THE Cumberland and Westmoreland Antiquarian and Archæological Society has recently published the late Rev. W. S. Calverley's "Notes on the Early Sculptured Stones and Monuments in the Diocese of Carlisle," and amongst his illustrations there is one of the Bewcastle dial. The photograph was taken from the top of a step-ladder, and consequently gives a much larger and more distinct view of the dial than any previous view has done. The principal hour-lines appear very plainly, but those for 4 p.m. and 5 p.m. are almost effaced, and the cross marks on the 9 a.m. and noonday-lines, noticed by Dr. Haigh and Professor Stephens, are not discernible. The vertical line to the east is only faintly seen. Probably these changes are due to the effect of time and weather on the stone. The editor of the "Notes," Mr. W. G. Collingwood, writes that "the dial is part of the original design and construction of the monument; for there has been no patching or piecing of the stone. The dial is in high relief, and the substance of it has been left unremoved in the first carvings. The flow of lines and harmony of composition show that it was intended by the artist to fit in among the patterns of the cross."

P. 60. A circular dial may be seen at Whenby, North Riding of Yorkshire, on the south wall of the thirteenth century church, and is probably of much later date than the building. The dial is divided into twenty-four spaces; the gnomon hole is $1\frac{1}{2}$ in. deep, and there are faint traces of Roman numerals.

Four stones with dials cut on them have been noticed in the south wall of the Norman church of Stainburn, in Wharfedale, Yorks.

CHAPTER IV.

A sketch of a dial on the south side of a corner-stone of the old church of St. Wandregilius, Bixley, Norfolk, is in Mr. Dawson Turner's collection of Norfolk drawings preserved in the British Museum. The sketch is copied from one taken in 1780, and shows that the dial was circular, with the lower half divided into twelve hour spaces by lines marked with Roman numerals. Near to it was an old Latin inscription recording the name of the founder of the church, William of Dunwich, a bailiff of Norwich in the reign of Henry III. The church was taken down and rebuilt in 1850.

P. 72. A circular dial is on the south transept of All Saints' Church, Lullington, Somerset. It is cut in a hard dressed stone such as has been used for the corner work of the windows. The transept is a later addition to a Norman church. The dial has a diameter of $9\frac{1}{2}$ in., and the lower half is divided into four spaces, two of which are subdivided. The gnomon hole is above an inch deep.

P. 80. Mr. E. C. Middleton has lately noticed a semi-circular dial of apparently early date at Cardington, Warwickshire. It is divided by clearly cut radiating lines into eight spaces, and was found in the churchyard amongst the roots of a large elm tree which was blown down during a storm. The stone had been broken in two, but the discoverer, a mason, wisely thinking that the lines "meant something," searched for and found the missing portion, and the whole stone was built into the churchyard wall, where it still is. The sharpness of its lines is no doubt due to the long burial of the stone underground.

INDEX.

- Aberdeen ; Earl Marischal's House, 159 ;
 King's College, 20, 141 ; Municipal Build-
 ings, 459.
 Aberdour Castle, 142.
 Aberford ; Church, 221 ; Vicarage, 108.
 Abbeydale, Sheffield, 480.
 Abbeyfield, Sheffield, 334, 396.
 Abbotsford, 251.
 Abriès, 211, 250, 277, 290, 325, 361, 363,
 377, 405, 411, 415, 467.
 Abul Hasan, writer on dials, 12.
 Acqui, N. Italy, 364.
 Acton, Cheshire, 426, 457.
 Adel, near Leeds, 457.
 Ægean Sea, natural sun-dial in, 17 (note).
 Agnelas, Château d', 242.
 Agnelas, Hameau de l', 356.
 Ahaz, the Dial of, 3. *See also* Horologium
 Achaz.
 Aidan, 62.
 Aigle, Canton de Vaud, 344.
 Aiguères, 417.
 Aiguilles, 338, 383.
 Aime, Savoy, 205, 313, 367, 378.
 Airth, Stirlingshire, 147.
 Aix, Provence, 213, 371, 460.
 Aix-les-Bains, 217.
 Alagna, 310, 391, 449.
 Alassio, 465.
 Alatri ; the Certosa, 369.
 Albenc, L', 280, 428.
 Alberts, Les, 223.
 Albi, 238, 258, 304, 390, 460 ; Cathedral,
 167, 334.
 Albizzola, 229.
 Aldbrough Church, 56.
 Aldeburgh ; Moot Hall, 281, 366.
 Aldenham Manor House, 348.
 Alderhill, near Leeds, 263.
 Alderley, Cheshire, 452.
 Aldershot ; South Camp, 431.
 Aldingham, Lancashire, 455.
 Aldington, Kent, 366.
 Alessandria, 397.
 Alexandria, dial from, 32.
 Alford, Dean, 207, 259, 272, 288, 297, 368,
 395, 415, 453.
 Alfred the Great ; method of dividing time,
 18.
 Alfrick, Worcestershire, 358.
 Alfriston, 67.
 Alghero, Sardinia, 404.
 Alleins, 275, 336, 409.
 Allemans, Les, 262.
 Alloa, 144.
 Almanack, dial motto copied from an, 319.
 Almondbury Church, 457.
 Alwalton Church, 473.
 Alzo, 338.
 Amalfi ; Capuchin Convent, 239.
 Ambleside ; the Knoll, 226.
 Ameno, 206, 387.
 Amenscope. *See* Wind-dial.
 America ; dials used by first emigrants, 24.
 Amiens Cathedral, 167.
 Amisfield, near Lochmaben, 232.
 Amotherby Church, 60.
 Amsoldingen, 328.
 Anaximander of Miletus, 8.
 Ancroft Church, 399.
 Andrewes, Bishop Lancelot, 329.
 Andrewes, Nathan, dial-maker, 475.
 Andronicus of Cyrrho, 40.
 Anêt, 314, 328 ; Château, 230 ; Hôtel de
 Ville, 360.
 Angers ; Abbaye de Ronceray, 338, 370.
 Anglo-Saxon division of time, 51.
 Angoulême ; the Evêché, 290, 303.
 Angus, Joseph, dial maker, 138.
 Annecy, 305, 378, 418.
 Annonay, 251, 381.
 Anstey, Leicestershire, 79.
 Antibes, 343.
 "Apelles Symbolicus," motto given in, 225.

- Aphrodisias, 32.
 Apian, Peter, writer on gnomonics, 20, 153.
 Apollonios of Perga, 8, 38, 378.
 Appleby, 120, 387.
 Appleton-le-Wiske Church, 61.
 Apprieu, 223.
 Aquileia, dials found at, 32, 44, 186.
 Arab dial in Victoria and Albert Museum, 181.
 "Arachne" dials, 35, 38.
 Arandon, 454.
 Arbroath, 19; St. Vigean's Church, 334.
 Arbury, Warwickshire, 316.
 Arcisses, Hameau des, 239, 462.
 Arco, Lago di Garda, 423.
 Ardenne, Château d', 281.
 Ardennes, near Forcalquier, 332.
 Ardingly, 67.
 Ardkeen, Inverness, 293.
 Ardlamont, Argyleshire, 151.
 Areley Kings, 216, 409.
 Arenenberg, Château of, 453.
 Argentières, 224.
 Arles, 385, 466.
 Arley Hall, Cheshire, 281, 326.
 Arma di Taggia, 297.
 Armthorpe, 60.
 Arola, 232.
 Arundel Church, 241.
 Arvieux, 228, 463.
 Ascot Church, 285.
 Ashcott, Somerset, 219.
 Ashleworth Churchyard, 123.
 Ashopton; "Shutts" near, 238.
 Ashover, 127.
 Ashurst Church, Kent, 456.
 Ashwick, Somerset, 404.
 Assisi, 174.
 Assyrian division of time, 3.
 Astbury, Cheshire, 426.
 Asti, Piedmont, 397, 398.
 Athens, dials in, 11, 34, 38, 39, 40; dials from, 11, 30.
 Atlas, figure of, bearing dials, 36, 106, 109.
 Atterbury, Bishop, 469.
 Auberives, 359.
 Auchinbowie, near Stirling, 151.
 Auchterhouse Church, 145.
 Auckland; St. Andrew's Church, 205.
 Augsburg; the Perlachthurm, 177.
 Aups, 244, 358, 380, 453.
 Auray; the Chartreuse, 223.
 Aurillac, 12, 211.
 Austin Friars; Dutch Church, 243.
 Auterive, near Auch, 327.
 Autun, 449, 454; Cathedral, 321.
 Avalion, 421.
 Avenières, Les, 249, 310, 338, 360, 426.
 Avignon; Grand Séminaire, 217, 324, 466.
 Avisawellè, Ceylon, 400.
 Axmouth, 267.
 Aycliffe Church, 328.
 Aylestone Church, 79.
 Aynho, Northants, 254, 482.
 Ayr, Auld Brig of, 149.
 Aytoun, William, dial-maker, 143, 144.
 Baak (or Bachup), Tobias, dial-maker, 144.
 Babworth Hall, Notts, 114.
 Babylonian division of day, 2.
 Backwell, Somerset, 123.
 Badminton House, 95.
 Bagni di Lucca, a house near, 421.
 Bakewell Church, 293.
 Bala; Town Hall, 206.
 Balcarres, 288.
 Balcomie Castle, 142.
 Baldwin, Colonel, box-dial belonging to, 439.
 Bâle; Irish MS. in Library, 55.
 Balerna, 395.
 Balerno; Newmills House, 205.
 Balgonie Castle, 157.
 Balla Mooar, Patrick, I. of Man, 337.
 Ballafreer Farm, Braddan, I. of Man, 213, 219, 337, 375.
 Ballakilley, I. of Man, 255, 314, 392, 463.
 Ballindalloch, 151.
 Balmerinoch, Lord, 163.
 Balmuccia, 395.
 Bamburgh Church, 51, 62, 365.
 Banbury; High Street, 215.
 Bar-le-Duc; Musée Lorrain, 244, 327, 372.
 Barde, near Montmorency, 377.
 Barfreston Church, 69.
 Barker, Messrs.; dials made by, 27, 114, 225, 228, 442, 483; dials in possession of, 107, 133.
 Barlow Hall, Lancashire, 321.
 Barmston, Yorkshire, 238.
 Barnack Church, 74.
 Barnard Castle; the Church, 255.
 Barnbogle Castle, 151.
 Barnes Church, Surrey, 432.
 Barnes Hall, near Sheffield, 241.
 Barnes Lodge, King's Langley. *See* King's Langley.
 Barnlea, Dunbar, 475.
 Barnton House, 150, 163.
 Barraux, 359.
 Barrowstonness; Grange, 232.
 Bartleet, Rev. S. E.; mottoes by, 299, 343, 348, 355, 485.
 Barton, near Darlington, 474.

- Bas Vacon, 248.
 Baslow, Derbyshire, 262, 326, 339, 459.
 Bassenthwaite, near, 317.
 Basses Alpes, dial-motto read in the, 422.
 Bastille, the, 168, 447, 471.
 Bath, 319; the Abbey, 72.
 Batley, Yorkshire, 241.
 Baudarapolla, Matalé, Ceylon, 400.
 Bauden, 336.
 Bayeux, 336.
 Beaconsfield, Bucks; the Rectory, 244.
 Beadnell, 365.
 Beau Coin, Jersey, 339.
 Beaucroissant, 223, 305.
 Beaufort (Savoy), 377, 449; Hôtel de Ville, 376, 402.
 Beaulieu, near Nice, 295.
 Beaune, 315; Musée Lapidaire, 244, 373.
 Beaurepaire, 207, 444.
 Beauvoir, 419.
 Bechyngton Place. *See* Friston.
 Bede, the Venerable, 12.
 Bedos de Celles, Father, 168.
 Beetham, 66.
 Bell Hall, near York, 281.
 Bellentre, 335, 419, 461; St. Jacques' chapel, 308.
 Bellerive, near Albi, 332.
 Belluno, 411, 443; Church of S. Stefano, 259, 358.
 Belmont, near Edinburgh, 146.
 Benares, 180.
 Benedictus, J. B., motto quoted by, 423.
 Bercy, 398.
 Berkeley Castle, 130.
 Berkswell, 79.
 Berlin; Museum, 35; Zoological Gardens, 288; motto on a dial made in Berlin, 288; Horological Exhibition, 27.
 Berosus, 5, 30, 34.
 Berry, John, dial maker, 427.
 Berwick-upon-Tweed, 149.
 Besançon; Church of St. Francis Xavier, 409; dials made by M. Bizot, 169; Hospital of St. Jacques, 217, 244, 326, 366, 368, 383, 419, 460.
 Bessée, La, 250.
 Betenoud, 448.
 Bethharram, 313.
 Bettini, Marius, motto given by, 212.
 Beverley Minster, 345.
 Bewcastle Cross, 18, 49, 51, 504.
 Bewick's "Æsop's Fables;" dial with motto figured in, 299.
 Bez, La, 305, 335, 336, 389, 446.
 Béziers, 207, 296, 455.
 Bezzeca, 230.
 Bible references to division of time, 2.
 Biddulph, Staffordshire, 123.
 Bideford; Bridge Trust Building, 411.
 Bielby, near Pocklington, 137, 220, 412.
 Biella-alta, 293.
 Billingsgate, 329.
 Binsey Church, 73.
 Biol, Isère, 449.
 Birmingham; manufacture of dials in, 27; Stanmore Road, 481.
 Birnie, Morayshire, 433.
 Bishop Middleham Church, 328.
 Bishop Stortford; Vicarage, 366.
 Bishopsthorpe, near York, 427.
 Bishopstone Church, 66.
 Bispham Churchyard, 237.
 Bispham Hall, 310.
 Bittadon Church, 328.
 Biviers, 304.
 Bixley, Norfolk, 504.
 Bizanet, 381.
 Bizot, M., dials designed by, 169.
 Blackden House, Crewe, 478.
 Blackheath; Morden College, 459.
 Blackley, Lancashire; Unitarian Chapel, 334.
 Blagrove, Mr., writer on dialling, 23, 269.
 Blakesley Church, 77.
 Blanchard, Dr., 166.
 Blandin, 343.
 Blanque, La, near Riaus, 258.
 Bleadon Church, 105.
 Blenheim Park, 127.
 Bletchley Park, 278.
 Blois; the Evêché, 247, 445.
 Blythburgh Church, 215.
 Boileau, dial motto from, 376.
 Bologna; Church of S. Petronio, 25; near Church of the Misericordia, 444; Piazza S. Domenica, 448.
 Bologna, near, 391.
 Bolton Abbey, 132.
 Bolton Castle, Wensleydale; the Church, 60.
 Bolton Church, Westmoreland, 66.
 Bolton Percy; Churchyard and Rectory, 345.
 Bon Conseil, Savoy, 355.
 Bond, Edward, grave of, 340.
 Bonneville, 413.
 Bonnington House, 150.
 Borcovicium, 43.
 Borden Vicarage, Kent, 340.
 Bordighera, 327, 395, 449; near Bordighera, 272, 324.
 Bormio, 405; near Bormio, 329.
 Borranhill House, Cumberland, 326, 425.
 Botolphs, Sussex, 66, 67.

- Bottesford Church, 80.
 Botus Fleming Church, 440.
 Bouchier, 423.
 Boulogne, 303.
 Bourg d'Oisans, 255.
 Bourges; Cathedral, 225; a house at, 308, 401.
 Bourne Abbey Church, Lincolnshire, 426.
 Bournestream House, Wotton-under-Edge, 287.
 Bousson, 371, 452.
 Bowdon, Cheshire; Erlesdene, 223.
 Bowland, near Galashiels, 163.
 Boxgrove, 67.
 Boyle, the Hon. Mrs. R. C., motto contributed by, 310. *See also* 297 and 322.
 Bozel, 223, 371, 409, 420.
 Brackley, 384.
 Bradbourne; Churchyard, 113; Hall, 114.
 Bradfield, Yorkshire; Church, 371, 427; Rectory, 334.
 Bradfield St. George, Suffolk, 226.
 Bradford Abbas, 72.
 Bradford Peverell House, 452.
 Brading, Isle of Wight, 280.
 Brahan Castle, Ross-shire, 222.
 Bramble Hill, New Forest, 396.
 Brampton Church, Hunts., 426.
 Brampton Bierlow, 466.
 Bramshill Park, Hants, 410.
 Brandon Church, Norfolk, 399.
 Bransby, near Saxilby; Old Hall, 310.
 Breage, Cornwall, 481.
 Bredbury Church, Cheshire, 482.
 Bredisholm, near Glasgow, 299, 478.
 Bremhill Rectory, Wilts, 366.
 Brent Church, S. Devon, 215.
 Bretmoux, 239.
 Brévières, Les, 274, 352.
 Briançon; a house at, 389, 408; Place d'Armes, 204, 211, 268, 405, 467.
 Bricet Church, 69.
 Brides-les-Bains, 303.
 Bridestowe; St. Bridget's Church, 354.
 Bridge of Allan, Perthshire, 426.
 Bridgend, co. Glamorgan, 265.
 Bridlington Quay, 400; the Priory Church, 426.
 Brighstone Church, I. of Wight, 267.
 Brighton; dial erected by Mr. Pym, 317; North Street, 361, 456; West Pier, 273, 281, 405, 443, 450.
 Brignoles, near, 219, 343.
 Brillane, La, 303, 426.
 Briollay, 380.
 Bristol Cathedral, 132.
 British Museum, 11, 31, 32, 36, 40, 41, 86, 189, 190, 192, 194, 196, 213, 215, 235, 239, 269, 357, 412, 422, 479.
 Brittany, a church in, 255.
 Brixen, Tyrol, 351; a church near, 175.
 Brockhampton Park, 422.
 Bromham Hall, Bedfordshire, 267.
 Bromley, Kent, 470.
 Brompton-on-Swale, 464.
 Bromsgrove Church, Worcestershire, 478.
 Brou, near Bourg-en-Bresse, 169.
 Brough Church, Westmoreland, 402, 426.
 Brougham; Countess's Pillar, 120, 387; Hall, 354, 428, 457.
 Broughton Castle, near Banbury, 266.
 Broughton Astley Hall, 210, 242.
 Broughton Gifford Church, 452.
 Bruges, 257, 346.
 Brulon, 311.
 Brunissard, 240, 335.
 Brussels; Maison du Roi, 406.
 Brympton, near Yeovil, 366, 451; the Church, 72.
 Brynbellia, near St. Asaph, 452.
 Buckinghamshire, early dials in, 79.
 Buckminster Church, Leicestershire, 418.
 Buckminster Hall, near Grantham, 281, 426, 441.
 Buckstone, Capt. Thos., dial set up by, 114.
 Buddhist priests' measurement of time, 8.
 Buen Retiro, Churriana, 172.
 "Building News," dial motto given in, 420.
 Buiserate, La, 470.
 Bullant, Jean, 22.
 "Bulletin Monumental," dial mottoes quoted in, without locality, 207, 221, 222, 223, 225, 234, 259, 382, 444.
 Bulmer Church, 60.
 Burdett Coutts, Baroness, 270.
 Burgon Dean, motto recorded by, 290.
 Burgos Cathedral, 174.
 Burmese method of dividing day, 16.
 Burnby, near Pocklington, 424.
 Burneston; Church, 61; Robinson's Hospital, 440.
 Burnham Church, Somerset, 310, 336.
 Burns, Robert, 25, 164.
 Burton Agnes Church, 60.
 Burton Hastings, 222.
 Bury St. Edmunds Church, 219, 267.
 Butler, Bishop, 457.
 Butterfly on glass dial, 130.
 Buxted Church, 478.
 Buxton, Norfolk; the Vicarage, 436.
 Bywell Abbey, Newcastle-on-Tyne, 416.
 Cabanes, Les, near Cordes, 303.

- Cablas, 391.
 Cachourie, La, 309.
 Cadder House, near Glasgow, 221, 282, 357.
 Cadenabbia, 463.
 Caereglwyd, Anglesey, 271.
 Cahahons, 447.
 Cahors; the Lycée, 244.
 Cains Cross, near Stroud, 220, 393.
 Calciavacca, Verolengo, 210.
 Caldbeck Church, 64, 381.
 Calder Hall, 335.
 California, 181, 321.
 Callaly Castle, 457.
 Cambiano, 237.
 Cambo, 244.
 Camborne Church, 385.
 Cambridge; Caius College (Gate Tower), 128; Christ's College, 135; Gonville and Caius College, 93; Jesus College, 135; King's College Chapel, 22, 456; Pembroke College, 135; Peterhouse, 27, 135; Queen's College, 135; St. John's College, 135; Sidney Sussex College, 135; Trinity College, 135.
 Cammo, near Cramond, 157.
 Camphill, Yorkshire, 205, 442.
 Campitello, 290.
 Campo Rosso, near Bordighera, 346.
 Camurat, 248.
 Cannes, 462; Rue d'Antibes, 236, 319.
 Cannes, near, 356.
 Cannon fired by sun's rays, 14.
 Canonical hours on dials, 51, 68, 78, 83, 85, 86.
 Canon's Ashby, 114.
 Canterbury; Dane John, 110.
 Capetown; Castle and Botanical Gardens, 181.
 Capolago, 327.
 Caprile, Venetia, 232.
 Carberry, Haddingtonshire, 155.
 Carberry Tower, 151.
 Carcassone, Château of the Cité de, 301.
 Cardington Church, Beds, 316.
 Cardington, Warwickshire, 504.
 Carennna, 259.
 Cargen, Dumfries, 230.
 Carlisle; Castle, 232, 373; Market Place, 121. *See also* 399.
 Carmaux, 364.
 Carnaby Church, 60.
 Carthorpe, Yorkshire; East Lodge Farm, 205; Village School, 407; West Lodge, 286; West Lodge Farm, 288.
 Cartmel, Lancs, 427.
 Carville Hall, Northumberland, 341, 441.
 Casamicciola, Ischia, 394.
 Casket-shaped dial with motto, 256.
 Cassiobury, Herts, 306.
 Cassiodorus, dial erected by, 11.
 Castanel, 358.
 Castasegna, 230, 395.
 Castel Lavazzo, near Longarone, 11, 393.
 Castel Nuovo, near Bormida, 383, 470.
 Castelnaudary, 213, 233.
 Castleberg, Settle, 17, 18 (note).
 Castlethorpe Church, 79.
 Castleton, Derbyshire, 280.
 Castletown, Isle of Man, 130.
 Catterick Church, 263.
 Catthorpe Church, 79.
 Caudebec, 371.
 Caumont, M., dial made by, 170.
 Causans, 269.
 Caussade, 369.
 Causson, 343.
 Cavaillon, 359.
 Cavendish Church, Suffolk, 267.
 Cawley Wood, Essex, 299.
 Cawston Lodge, Rugby, 454.
 Cawthorne Church, Yorks, 464.
 Cayla, Château de, 343.
 Caythorpe Church, 80.
 Ceiling dials, 134, 136, 318.
 Ceppomorelli, 237.
 Certosa dei Calci, near Pisa, 298.
 Cervières, 383, 405.
 Ceylon, dials in, 400.
 Chaddeley Corbett, 123.
 Chaldean division of time, 16.
 Chalice or goblet dials, 190.
 Châlons-sur-Marne, 229, 450.
 Chamaloc, 307.
 Chambéry; the Archévêché, 245, 249, 258, 346, 397.
 Champagnier, 223, 449.
 Champs, near Fenestrelles, 354.
 Chantilly, 453.
 Chapareillan, 278.
 Chapel-en-le-frith, 457.
 Chapelle St. Jacques, 355.
 Charavines, 239.
 Charlecote, 136.
 Charles I. and sun-dials, 23, 95.
 Charles V.'s dial, Yuste, 21, 174.
 Charlesfield, Midlothian, 282, 359, 428.
 Charlton, Somerset, 280.
 Charlton Kings, Somerset, 361.
 Charnècles, 240, 302.
 Charterhouse, London, 126.
 Chartres Cathedral, 22, 166.
 Charwelton, 77.
 Château of the Baron Perrier de la Batie, Savoy, 375.

- Château of the Count Pinsuti, Piedmont, 359.
 Château-Queyras, 211, 359, 369, 413; the Church, 250, 323, 335.
 Châteauneuf de Gadagne, 305.
 Chatelard, 244, 456.
 Châtaudren, 255.
 Chatillon, 210, 376.
 Chatte, 220.
 Chazelet, Le, 322.
 Checkley, 328.
 Cheeseburn, 102.
 Chelsea Old Church, 460.
 Chelvey, 123.
 Cherville, 328.
 Chester; Brook Lodge, 267.
 Chester, the Rev. G. J., mottoes by, 210, 288.
 Chesterton Church, 392.
 Chevry-en-Sereine, 445.
 Chew Magna, 286.
 Chichester Cross, 122.
 Chieri, 409; Cathedral, 228.
 Childwall, Lancashire, 205.
 Chilham Castle, Kent, 453.
 "Chilindre" or "Kalendar," 187.
 Chilvers Coton, 79.
 Chimilin, near Aoste, 351.
 Chimneys, dials on, 129, 144, 402, 422.
 Chinese division of day, 15, 16; sun-dials, 13; portable dials, 14, 199.
 Chinon, 222.
 Chiomonte, 415.
 Chipping Sodbury Church, 407.
 Chirnside, Berwickshire, 274.
 Chogne, 208.
 Chorley, Lancs.; the Churchyard, 404.
 Christ's Hospital, 248.
 Ciboure, 472.
 Cicero, 10, 31.
 Cimiez, 466; Capuchin convent, 472; Franciscan convent, 244, 309, 390, 447, 449, 471.
 Ciotat, 371, 403.
 Civiasco, near Varallo, 309.
 Cividale, Friuli, 465.
 Clackmannan, 146.
 Clackmarras, Morayshire, 482.
 Claux, Les, Vallouise, 305.
 Clavius, writer on dialling, 23.
 Clayworth Church, Notts, 361.
 Clement's Inn, 109.
 Cleobury Mortimer, 86.
 Clepsydræ, 8.
 Clerkenwell; Messrs. Barker's works, 288.
 Clermont-en-Argonne; St. Anne's Chapel, 444, 454.
 Clermont-Ferrand, 456; Museum, 172.
 Cliburn, 66.
 Clifton; Goldney House, 404.
 Company of Clockmakers, 24; dial with motto in collection, 454.
 Clogher, 85.
 Clone Church, co. Wexford, 85.
 Clovelly, 466.
 Cloyne Cathedral, 340.
 Clumber, 108.
 Cluny, 238.
 Coaley, 70.
 Cockburnspath, 144, 153.
 Cognin, 206.
 Cogoletto, 353.
 Cokethorpe Park, Oxfordshire, 331.
 Col di Tenda, 415.
 Coldthorpe, Glos., 408.
 Cole, Humphrey, 196, 215.
 Colebrook, Devon, 473.
 Colley Weston, Northants, 288.
 Collingtree Church, 78.
 Colsterworth Church, 136.
 Column dials, 187.
 Comano, 374.
 Combe, Hameau de la, 306.
 Como, near, 291, 399.
 Compass dials, 195-197.
 Compiègne, 346, 385, 468.
 Compton Basset, 281.
 Compton Wynyates, 401; the Moat, 400.
 Conan-side, Cromarty, 165.
 "Conarachne," 38.
 Concarneau, 428.
 Conflans, 373.
 Congleton, 123.
 Conical dials, 36.
 Coniemony, Glen Urquhart, 164.
 Connor, motto read in the diocese of, 411.
 Constantinople, 12, 13, 47, 237.
 Convent of the Perpetual Adoration, France, A, 277.
 Convex and globular dials, 106.
 Conway, 241.
 Cookbury Church, Devon, 384.
 Copdock Church, Suffolk, 430.
 Copenhagen Museum, 370.
 Copgrove Rectory, Yorkshire, 249.
 Copleston, Bishop, motto used by, 315.
 Copthorne Hall, Shrewsbury, 287.
 Corby Castle, 233.
 Cordes, 233, 404; Church of the St. Crucifix, 416.
 Corhampton Church, 67, 68.
 Cormeil, 380.
 Cornwall, dials in, 128.
 Corstorphine Church, 145.

- Cortachy Church, 456.
 Cosmo de' Medici, 22, 174.
 Cossila, near Biella, 274.
 Côte d'Aime, La, 320.
 Cotton, Dean, of Bangor, 267.
 Countess of Pembroke's Pillar, 119. *See also* 387.
 Cour, La, near Durtal, 204.
 Courmayeur, 207, 218, 224, 259, 304, 310, 467.
 Coutures Church, 170.
 Covenham St. Mary Church, 80.
 Covent Garden, 24, 124.
 Cowper, William, 112.
 Cradley, near Malvern, 448.
 Craigiehall, Midlothian, 151.
 Craigmillar Castle, 216.
 Craignethan Castle, 159.
 Crail, Fifeshire; Denburn House, 268.
 Cramond, near Edinburgh, 158, 400.
 Cranbrook, Kent, 247.
 Cranbury Park, 112.
 Craon, 171.
 Crathie, a window dial sold at, 287.
 Crau, The, Provence, 277.
 Crawleyside, co. Durham, 138.
 Crediton; Holy Cross, 426.
 Crépy-en-Valois, 444, 461.
 Crespano, 472.
 Crest, 308.
 Crichtoun House, 149.
 Critz, John de, dial painter, 96.
 Croft Church, Yorkshire, 60, 327.
 Croiza, La, 240, 386.
 Cromarty Castle, 165.
 Crompton (or Shaw), near Oldham, 206, 348.
 Cross dials, 107, 198, 221, 243, 246, 262, 274, 289, 351, 359, 375, 399, 414, 431, 464, 473, 480.
 Crosses, dials on bases of destroyed, 23, 111, 123.
 Crottes, Les, 340.
 Crowborough, Sussex; Crowborough Cross, 283; Woodburn, 458.
 Crowder House, Ecclesfield, 293.
 Crowley, Ambrose, 374.
 Cubberley, Gloucestershire, 264.
 Cubbington; Church, 79; Vicarage, 287; West Hill, 281.
 Cube dials, portable, 197.
 Cubical vertical dials, 127.
 Cuers, 452.
 Culgaith; Millrigg, 417.
 Culmerden, 123.
 Cumberland, early dials in, 63-66.
 Cummin (or Camin), Saint, 82, 84.
 Cumwhitton, Cumberland, 275.
 Cutcombe, Somerset, 425.
 Cylindrical or semi-cylindrical dials, 102, 144, 243, 425.
 Daglingworth Church, 69.
 Dalston, Cumberland, 113.
 Dalton-le-Dale, 53.
 Dante, Fra Egnatio, 174.
 Danby Hall, near Leyburn, 330.
 Danby Mill, near Leyburn, 345.
 Darfield, Yorkshire, 295.
 Darley Hall, Derbyshire, 425.
 Darley, Yorkshire. *See* Menwith Hill.
 Darlington, 397; the Church, 53, 406.
 Dartmouth, 209.
 Dauphiné, two mottoes seen in, 301, 401.
 Davies, Mr. J. C., motto on dial belonging to, 331.
 De Bresc Collection, the, 276.
 "De Symbolis Heroicis," or "Symbola Heroica," 196, 347.
 Dearham Church, 64.
 Deeping St. James, Lincolnshire, 258.
 Deighton Church, Yorkshire, 223.
 Delamain, C., dial figured by, 333.
 Delhi; the Fort, 286; Rajah Jey Singh's dial, 179.
 Delos, dial from, 43.
 Dennington Church, 333, 432.
 Denton, near Canterbury, 103.
 Derby, 247.
 Dereham, Norfolk, 458.
 Dergny, 389.
 Derryquin Castle, 479.
 Derwent, Derbyshire; the Churchyard, 331; the Hall, 207, 459.
 Descines, 276.
 Devon, dials in, 128.
 Dewsbury Church, 425.
 Dials adapted for certain days, 57, 63, 64, 75.
 Dials inside buildings, 53, 57, 63, 369.
 Diano Castello, Riviera, 448.
 Dickens, Chas., 111.
 Digges, M., writer on dialling, 23, 269.
 Dijon, 170.
 Dingley Rectory, Northants, 245, 400.
 Dionysiodorus of Milo, 36.
 Diptford Church, Devon, 214.
 Dirtcar House, near Wakefield, 241, 399.
 Disc dials, 189, 190, 198.
 "Discus in planitia," 45.
 Disley; the Lyme Cage, 386, 468.
 Distington; dial in possession of Mr. Wallace, 458.
 Dittisham, Devon, 399.

- Dixey, C. W., and Sons, motto on a dial made by, 412.
 Doddbrooke Church, Devon, 315.
 Doddridge, Dr. Philip, lines by, 9 (note).
 Dolce Acqua, near Bordighera, 335.
 Doncaster; Ote de Tilli's Cross, 24.
 Donne, Dr., dial erected by, 96.
 Dorat; Petit Séminaire, 264.
 Dorking, 209, 441.
 Dorset, dials in, 72, 128.
 Doune, 147.
 Doussard, 471.
 Dover, 281, 409; Museum, 88.
 Down, Kent, 443.
 Downham Hall, Norfolk, 287, 341.
 Dowth, sun circles at, 75.
 Dresden; Altmarkt, 228.
 Driffeld Church, 60.
 Dromore Castle, 252.
 Drummond Castle, 149, 151, 477.
 Dryburgh Abbey, 476.
 Dryden, Sir H., 72.
 Dublin Museum, 85, 127.
 Dubois, M., mottoes from collection of, 272, 313.
 Duccio, 239.
 Ducher or Tucher, Hans, 209, 235, 400.
 Dudlington Church, 79.
 Dumfries; Cargen, 230.
 Dunbar; Baralea, 475; St. Anne's Court, 474.
 Dunchurch Church, 79.
 Duncombe Park, 110, 343.
 Dundas Castle, Linlithgowshire, 154.
 Dunglass, Haddingtonshire, 162.
 Dunottar Castle, 143.
 Duns, Berwick. *See* Whitcheater.
 Duport, J., lines for a dial motto, 425.
 Durban (France), 444.
 Dürer, Albert, 21.
 Durham; Cathedral, 25; Dean's Kitchen, 412.
 Durham, county of, early dials in, 52.
 Duthie Park, Aberdeen, 159.
 Dymock Church, 322, 450.
 Eadric, maker of dial, 66.
 Earls Barton Church, 77.
 Easby Churchyard, 425.
 East Bergholt Church, 441.
 East Grinstead; Sackville College, 281.
 East Harlsey Church, 59.
 East Harptree, 372.
 East Horndon, Essex, 426.
 East Leake Church, Notts, 345.
 East London, near Rawdon, 205.
 Easton, near Stamford, 478.
 Easton, Norfolk, 426.
 Ebberston Church, 329, 362.
 Ecclesfield; Church, 475; Corn Mill, 425; Crowder House, 293; Whitley Hall, 344.
 Ecton Church, 75, 127.
 Edinburgh; Canongate Tolbooth, 141; doorway motto, 412; Heriot's Hospital, 143, 155, 166; Holyrood, 23, 156; John Knox's house, 434; Minto House, 157; Museum of Antiquities, 196, 215; Potter Row, 478; Prince Albert Victor's dial, 213, 286, 317, 325, 420, 438, 440, 479; St. Cuthbert's, 470; St. Giles's Church, 146; Summerhall, 146; Warriston House, 157; Wrychtis House, 153; Zoological Gardens, 155.
 Edmond Castle, near Carlisle, 407.
 Edmonton, 459.
 Effingham Castle, 222.
 Egypt, sun-dials in, 5, 181.
 Egyptian method of dividing day, 3, 16.
 Elgin, 149.
 Elie, Fifeshire, 146.
 Ellastone Church, Derbyshire, 426, 466.
 Elleslie, 221, 262, 344, 346, 366, 380, 400, 450, 460, 464.
 Elliot, Sir F., motto contributed by, 451.
 Ellon Castle, 157.
 Elmley Castle; the Churchyard, 98, 99.
 Elmley Moor; Mouse House, 59.
 Elne, 356.
 Elsworth Church, Cambs., 333.
 Elvington, Yorkshire, 383.
 Elwick Church, co. Durham, 249.
 Ely Cathedral, 304.
 Ember Court, Surrey, 281, 409.
 Emerson, Robt., dial maker, 215.
 Emerson, William, writer on dialling, 128.
 Entrèves, near Courmayeur, 314.
 Epinal, 322.
 Epineuil; St. Etienne's Church, 239.
 Epire, 230.
 Equatorial dial exhibited at Berlin, 27.
 Erith, Kent, 385; St. John's Church, 248.
 Ermington, Devon; St. Peter's Church, 225.
 Erstfelden, near Altdorf, 472.
 Escombe Church, 52.
 Esher Place, Surrey, 286.
 Esholt Hall, near Leeds, 427.
 "Esmond," 328.
 Essie and Nevay; Kirk Sessions' records, 164.
 Essington, the Rev. R. W., 289, 431.
 Euporus, 44.
 Euxton, Lancashire, 373.
 Evans, Lewis, Esq., F.S.A., collection of, 204, 209, 226, 235, 238, 251, 257, 273.

- 274, 297, 325, 327, 331, 346, 357, 362, 370, 375, 381, 395, 400, 401, 405, 417, 466, 479; mottoes from French MS., 264, 300, 325, 360, 382. *See also* King's Langley, and chapter on "Portable Dials."
- Evantard, 320.
- Evelyn, John, 125, 129, 134.
- Everdon, 78.
- Evergreen dials, 27, 266, 306, 314.
- Evian, 327, 342, 346.
- Ewing, Juliana Horatia, 292, 333, 431.
- Exeter, 247; Cathedral, 366; Museum, 289.
- Eyam Church, Derbyshire, 295, 457.
- Eybens, 307.
- Eyguières, 241.
- Eyzin, 277.
- Facet-headed dials, 108, 156-159.
- Falaise Cathedral, 167.
- Falaise, near, 308.
- Fale, Thomas, writer on dialling, 23.
- Falmouth, 408.
- Falsgrave, Scarborough, 330.
- Fano, Italy, 403.
- Farnham Castle, 249, 369.
- Farnley Hall, Yorkshire, 400.
- Farnworth, Lancashire, 281.
- Faroe Islands, division of time in, 17.
- Felkirk Church, Yorkshire, 247.
- Fellside, Great Snaresbrook, 104, 243, 404.
- Felton, Northumberland, 127, 457.
- Fénelles, near, 232.
- Fenny Compton, 459.
- Fens, motto seen in the, 203.
- Fenwick, near Falkirk, 164.
- Fergusson, James, writer on dialling, 25.
- Ferrières, Abbey of, 350.
- Ferryhill Vicarage, co. Durham, 388.
- Ferté Bernard, La, 248, 265, 468.
- Ferté-sous-Jouarre, La, 472.
- Fettercairn, Kincardineshire, 147.
- Fettes College, 157.
- Fiera di Primiero, La, 278, 409.
- Fiesole, 239.
- Fieubet, M. de, 244, 368.
- Figures supporting dials, 35, 36, 109, 110, 160, 343.
- Finæus, Orontius, writer on gnomonics, 20.
- Finchley, 322.
- Finger-ring dials, 195.
- Fisherow, 144.
- Flaxley Abbey, 110.
- Floore, 78.
- Floral dials, 27.
- Florence; Convent of the Annunziata, 247; Convent della Quietè, 234, 262; Palazzo del Marchese Scalzi, 291; Ponte Vecchio, 174; Sta. Maria Novella, 22, 174; studio of Signor Gelli, 311. *See also* 295, 330, 391.
- Flosaille, Hameau de, 205.
- Flotterton House, near Rothbury, 459.
- Folatière, La, 306.
- Folkestone, 386.
- Fontenay aux Roses, 311.
- Fontenil-sous-Briançon, Le, 213, 230, 339.
- Fontienne, 336.
- Forcalquier, 251.
- Ford Castle, Northumberland, 107.
- Ford Church, Sussex, 66.
- Forgue, Elgin; St. Margaret's Church, 163.
- Formigny, 450.
- Fornasette, 234, 242.
- Fortville, near Briançon, 311.
- Fougères, Château de, 371, 382.
- Foulden, Norfolk, 399.
- Fountainhall, Midlothian, 146, 147.
- Fountains Hall, near Ripon, 399.
- Frampton, Bishop, 338.
- France, Eastern, motto from, 450.
- Franciscan convent, motto on a dial within a, 369.
- Frankfort Museum, 205.
- Frant, Kent, 225.
- Fraser, Alexander, dial maker, 479.
- Fredericton, New Brunswick, 292.
- Freiburg-in-Breisgau, 19, 176.
- Fréjus; Cathedral, 386; a convent, 346; Grand Séminaire, 213.
- French dials, 166, 197.
- Frette, La, 344.
- "Friends in Council," 282.
- Frisius, Gemma, writer on gnomonics, 20.
- Friston, or Bechyngton Place, Sussex, 394.
- Frithelstock Church, 451.
- Frittenden, 325.
- Frognal End, Hants, 432.
- Frome, Somerset, 281, 320.
- Fulbeck Hall, Lincs., 409.
- Fure, 305.
- Furneaux Pelham, 330.
- Fylfot on early dials, 57, 86.
- Fyning House, Sussex, 338.
- Gadshill, 111.
- Gainford Church, 332.
- Gainsborough, 236, 459.
- Galashiels, 147.
- Gale Syke, Wastwater, 362.
- Galindez, Martin, maker of dials, 21.
- Galtfaenen, N. Wales, 287.
- Garde, La, 396.

- Gardes, 367.
 Garstang, Lancashire, 366.
 Gass, 454.
 Gatty, Mrs.; "Book of Emblems," 285.
 Gatty, C. T., Esq., F.S.A., collection of, 130, 227, 367, 471.
 Gaupp, Johann, dial figured by, 243, 246, 274.
 Gavet, 208.
 Gay, John, lines on the Seven Dials, 126.
 Gayhurst House, near Olney, 346.
 Geddington; the Church, 78; the Cross, 122.
 Geneva, 369; near Geneva, 470.
 Genoa; Cathedral, 175; Villa Mylius, 394; Villa Novella, 393.
 Gentilly, near Paris, 455.
 "Gentleman's Magazine," mottoes from, 362, 398, 433.
 Gerbert (Pope Sylvester II.), 12, 211.
 Germany, dials in, 175.
 Gibside House, near Newcastle, 457.
 Gières, 244.
 Gifford, James, maker of dial, 161.
 Gilcrux, Cumberland, 127.
 Gilling Church, near Catterick, 263.
 Glaisdale Church, Yorks, 293.
 Glaises, Les, 463.
 Glamis Castle, 161.
 Glasgow Cathedral, 255, 362, 450.
 Glass House, near Packwood, 129.
 Glastonbury, 280.
 Globe and convex dials, 106.
 Gloucester; Cathedral, 365; St. Lucy's Home, 266; Southgate Street, 264.
 Gloucestershire, early dials in, 69.
 Gnomons, remarkable, 130, 131.
 Goblet-shaped dials, 190, 473.
 Godolphin, Mrs., 481.
 Golder's Hill, Hampstead, 242.
 Goosnargh, Lancashire, 468.
 Göttingen Museum, 27.
 Graf, near Landeck, 235.
 Grafton Regis Church, 76.
 Graglia, 203, 251, 394.
 Grange, Barrowstonness, 232.
 Granier, Savoy, 388.
 Grantham, 342.
 Grappenhall, Cheshire, 373.
 Grasse, 210, 239, 244, 414.
 Grasse, near, 356.
 Gray's Inn; Coney Court, 126.
 Great Barton Church, 366.
 Great Edstone Church, 55.
 Great Fosters, near Egham, 92.
 Great Linford Church, 79.
 Great Sankey, Lancs., 205.
 Great Smeaton, Yorks., 315, 323, 358, 375.
 Great Snaresbrook. *See* Fellside.
 Greece, dials in ancient, 8, 11.
 Greek division of time, 6, 16.
 Greenbury Farm, Scorton, Yorks, 247.
 Grendon, Northants, 397.
 Grenoble; Caserne de l'Oratoire, 264; Grand Séminaire, 225; the Lycée, 168, 424. *See also* 277.
 Grenoside, Yorkshire, 394.
 Greystoke, 128, 345.
 Grignan, Château de, 454.
 Groombridge Place, Kent, 321, 452.
 Grosseto, 472.
 Guildford, 467.
 Guillac, 401.
 Guilsborough, Northants, 260.
 Guisborough, Yorkshire, 122.
 Guitalan, 264.
 Guiting Grange, 128.
 Gulval Church, Cornwall, 425.
 Gunter, Edmund, writer on dials, 23, 94.
 Haddington, 160.
 Hadleigh, Suffolk, 330, 434, 481.
 Haigh, Rev. D. H., 16.
 Haining, the, Selkirk, 164.
 Hales Church, 69.
 Haley Hill Cemetery, near Halifax, 334.
 Halford Bridge, Warwickshire, 129.
 Halifax Church, 446.
 Hall Place, Berks, 301.
 Halliford-on-Thames, 281, 435.
 Hallyards, Peeblesshire, 413.
 Hallstadt, 237, 333.
 Halton, Immanuel, dial-maker, 136.
 Hamilton, John, dial-maker, 146.
 Hampshire, early dials in, 67.
 Hampstead; Golder's Hill, 242.
 Hampton-in-Arden, 79.
 Hamstall, 108.
 Hamsterley Church, 53, 324.
 Hand used as a dial, 22.
 Handasyde, Archibald, dial-maker, 158, 400.
 Handsworth; Grove Lane, 286.
 Handsworth Rectory, Yorkshire, 426.
 Hanslope, 108.
 Harcourt, 218.
 Hardingham Church, 69.
 Haresfield; Church, 483; Court, 239.
 Harewood Church, near Leeds, 465.
 Hargrave Rectory, Northants, 366.
 Harlston, Northants, 430.
 Harpham Church, 61.
 Harrow, 281.
 Hart Church, co. Durham, 52.

- Hartburn Church, 102.
 Hartland, Devon, 24.
 Hartest Church, Suffolk, 459.
 Hartington Church, 406.
 Hartlepool, 439; the Church, 432.
 Hartmann, Georgius, writer on gnomonics, 20.
 Hartshead Church, 105.
 Hartshorne, Albert, Esq., F.S.A.; dial in collection of, 187.
 Harvey, Gabriel, on contemporary dial makers, 269.
 Hasfield, 70.
 Hastings Castle, 104.
 Hastings, Lady Flora, lines by, 214.
 Hatfield House, 135.
 Hatford, near Faringdon, 224, 457.
 Hatherley, Gloucestershire, 343.
 Hatton House, Midlothian, 142.
 Haveas, Theodorus, dial maker, 93.
 Haverfield; Round House Farm, 360.
 Hawick, 146.
 Haworth Church, Yorkshire, 386.
 Haydon Bridge Church, 341.
 Haydor or Heydour Church, Lincs, 427.
 Heapey Church, Lancashire, 206.
 Hebden Bridge, Yorkshire, 382.
 Hebron, the Mosque at, 181.
 Heddou-on-the-Wall, 457.
 Hedon Church, Yorks, 384.
 Hegge, Robert, 90.
 Heidelberg Castle, 176.
 Heigham, near Norwich, 399.
 Heighington Church, 247.
 Helston, Cornwall, 453.
 Hemicycles, 30-36.
 Hemispherium, 30.
 Hems, Mr. Harry, 420.
 Henbury, Gloucestershire, 123.
 Henley Hall, Ludlow, 485.
 Heraclea, dial from, 38.
 Herculaneum, 42; portable dial from, 185.
 Heriot's Hospital. *See* Edinburgh.
 Hermit Hill, Wortley, 236.
 Herne Church, 69.
 Herodotus, 2.
 Hesketh Hall, Cumberland, 129.
 Hesketh, Lancashire, 208, 440.
 Heslington Hall, near York, 108, 222.
 Hières, Les, 208, 443, 470.
 High Cross, Warwickshire, 120.
 High Lane, near Disley, 219.
 Higham Ferrers Church, 77.
 Highclere, Newbury, 281.
 Highgate Grammar School, 463.
 Highlands, near Calne, 289.
 Hilton, Yorkshire, 60.
 Hilton, Mr., mottoes quoted by, 276, 322.
 Himbleton, 464.
 Hinckley, 254.
 Hindu division of time, 16.
 Hogarth's "Chairing the Member," 373, 478.
 Holbein, Hans, 21, 153.
 Holborn; St. Andrew's Church, 421.
 Holderness, 60.
 Holmhurst, Sussex, 223, 298, 341.
 Holwood, Keston, 437.
 Holyhead; Penrhos, 271; St. Cybi's Church, 484.
 Holyrood; Queen Mary's Dial, 23, 156.
 Holywell Church, Oxford, 135.
 Hommelius, Johannes, writer on gnomonics, 20.
 Honestone dials with mottoes, present locality unknown, 204, 347, 398, 419, 422.
 Hoole Church, Lancashire, 404, 458.
 Hopley, Mr. Howard, mottoes recorded by, 258, 393, 407, 425, 463.
 Hopton, Arthur, dial figured by, 399.
 Horbury, Yorks; the House of Mercy, 253, 359, 473.
 Horizontal dials, 109, 149.
 Horologium Achaz, the, 176.
 Horrox, Jeremiah, 458.
 Horsley, near Stanhope, 281.
 Horton Church, Dorset, 368.
 Horton Church, co. Durham, 384.
 Houghton, 135.
 Houseteads, 43.
 Houston, 148.
 Howard, John, 28, 178.
 Howden, Dr. of Haddington, dial in possession of, 160.
 Huntercombe Manor, Maidenhead, 322.
 Hurstpierpoint, 464.
 Hurworth, 128.
 Hutton-Buscel Church, Yorkshire, 442.
 Hyères, 207, 277.
 Icelandic division of time, 17.
 Ilam Churchyard, 123.
 Ile d'Oléron; Château, 227.
 Ilminster, 444.
 Ince Blundell collection of marbles, 34.
 Inch House, Midlothian, 163, 214, 216, 258, 277, 341, 450.
 Indersdorf, Prior Martin of, 297.
 Indian sun-dials, 179; portable sun-dials, 187.
 Ingleton Church, Yorkshire, 247.
 Ingoldswick, near Skegness, 224.
 Ingram Church, 63.
 Iniscaltra, 82.

- Innes House, Morayshire, 144.
 Interlaken, 265.
 Inveresk; Church, 158, 400; Lodge, 420.
 Inverkeithing, Fifeshire, 147.
 Invermay, Perthshire, 151, 157.
 Ipswich, 366; Old Custom House, 427;
 St. Margaret's Church, 365; St. Mary-le-
 Tower Church, 430.
 Isel; St. Michael's Church, 63, 75.
 Isella, 444.
 Isfield Church, 67.
 Isle d'Aval, Château de l', 367.
 Isleworth Church, 441, 473.
 Issy, near Paris, 240, 275.
 Italian sun-dials, 175; portable, 198; a
 cylinder dial with mottoes, 212, 230.
 Italian Tyrol, 27 (note).
 Italy, North, mottoes seen in, 258, 322, 323,
 369.
 Ivry, 233, 243.
 Ivychurch, Wiltshire, 19, 89.
 Izeaux, 208, 250, 306, 312, 342, 446.
 Jamaica; Great Pond House, 367.
 James, C. E. N., Esq., motto contributed
 by, 272.
 Japanese sun-dials, 13; portable dials, 14,
 199.
 Jarrow Church, 457.
 Jaurat, motto in a picture by, 421.
 Jedburgh, 144, 260.
 Jeffcock, Rev. J. T., lines by, 221.
 Jersey; Beau Coin, 339; St. Brelade's
 Church, 312.
 Jerusalem, the Mosque, 181.
 Jewish division of time, 3.
 Jey Singh, Rajah, 180.
 Jeypore, 180.
 Johadière, La, 255.
 Johnson, Dr. Samuel, 252.
 Jones, Inigo, 123.
 Josselin, Château de, 167.
 Jumièges, 167.
 "Kalendar" or "Chilindre," the, 187.
 Karlsbad, 279.
 Kaysersberg, 321.
 Kedleston, Derbyshire, 478.
 Keir, Perthshire, 421.
 Kelbouroun Spit, 179, 287.
 Kelburn House, Ayrshire, 150.
 Kells, 85.
 Kemerton Court, 189.
 Kempstone Hall, Notts, 480.
 Kenilworth Castle, 79.
 Kenmure Castle, 212, 245.
 Kenn, Somerset, 123.
 Kensington; High Street, 318; Palace, 111.
 Kensington Museum. *See* Victoria and Al-
 bert Museum.
 Kent, early dials in, 69.
 Kernuz, Château de, 402.
 Kerouartz, Château de, 207.
 Kew Palace, 111.
 Kherson, dial to Howard's memory, 179.
 Kidderminster Church, 343.
 Kilcummin, 84.
 Kildwick Church, Yorkshire, 366.
 Killala Cathedral, 86.
 Killbay, 85.
 Killiney, 282, 409.
 Killingworth, 25.
 Kilmalkedar, 83.
 Kilmarten, Inverness-shire, 163.
 Kilnwick on the Wolds, Yorkshire; the
 Church, 267, 433.
 King's Coughton House, near Alcester, 222.
 King's Hill, near Dursley, 108.
 King's Langley; Barnes Lodge, 231, 333,
 337, 380, 427, 459, 481.
 King's Lynn; Market Cross, 247, 331, 389,
 398.
 Kinlet, near Bewdley, 100.
 Kinross House, 146.
 Kiplin Hall, Yorkshire, 287, 331.
 Kircher, Athanasius, 168; dials figured by,
 204, 338.
 Kirk Arbory, Isle of Man, 284.
 Kirk Braddan, Isle of Man, 420, 426.
 Kirk Leavington, Yorkshire, 440.
 Kirk Michael, Isle of Man, 424.
 Kirk Oswald Church, 65.
 Kirk Whelpington Church, 280.
 Kirkburn, 59.
 Kirkby in Cleveland, 247.
 Kirkby Grindalyth Church, 59.
 Kirkby Malham, 138.
 Kirkby Malzeard, 259; Church, 60.
 Kirkby Moorside, 460; the Church, 59.
 Kirkby Overblow Church, 470.
 Kirkdale, 18, 54.
 Kirkleatham; Turner's Hospital, 255, 482.
 Kirklington; Church, 60; Red House
 Farm, 214.
 Knole Park, Kent, 370.
 Knook Church, 72.
 Knowle, 79.
 Knowsley Park, 107, 126.
 Kratzer, Nicholas, 21, 22, 90, 116.
 Krinan, Switzerland, 451.
 Kynuyn, John, dial maker, 269.
 Lacock Abbey, Wilts, 246.
 "Lacunar," 45.

- Ladylands House, 154.
 Lago di Garda, near, 307.
 Lainshaw, Ayrshire, 156.
 Laithkirk Church, Yorkshire, 473.
 Lake House, Wilts, 347.
 Lamancha House, Peeblesshire, 262.
 Lambeth Palace; Lollard's Tower, 130.
 Landecla, near Abervrach, 279.
 Landor, W. S., lines by, 293.
 Landry, Savoy, 236.
 Lang-Green, 151.
 Langen Schwalbach, 239.
 Langford Church, 72, 73.
 Langston House, S. Devon, 389.
 Langton Matravers, 316.
 Lans, 363.
 Lansbug, Philip, motto quoted by, 485.
 Lansdowne Lodge, Kenmare, 295, 315.
 Lanteglos-by-Fowey, 206; the Church, 474.
 Lanuéjols, 381.
 Lanvénege, 167.
 Laon, 218; Cathedral, 167.
 Larche, 363.
 Lari, near, 365, 393.
 Larroque, 358.
 Lavingham Church, 60.
 Lauriston Castle, 158.
 Lausac, 407.
 Lavagna, 393.
 Laval; St. Trinité, 204.
 Lavendon Grange, near Olney, 366.
 Lawford Hall, near Manningtree, 240.
 Leadbetter, Charles, 246; mottoes quoted by, 248, 251, 318, 329, 344, 381, 393, 396, 398, 421, 479.
 Leadenhall; St. Catherine Cree's Church, 342.
 Leadenhall Corner, 24, 106.
 Leake Church, Yorkshire, 60, 309.
 Leam, 281.
 Leamington Hastings Church, 335.
 LECTERN-SHAPED DIALS, 152.
 Ledbury Church, 79, 130.
 Lee Castle, Lanarkshire, 158.
 Leeds; St. John's Church, 407.
 Légerie, 413.
 Leicester; St. Martin's Church, 225.
 Leicestershire, early dials in, 79.
 Leighton Buzzard; Church, 220, 236, 247, 465; a shop, 473.
 "Leisure Hour," motto recorded in, 272.
 See also Hopley, Mr. H.
 Lelant Church, 130.
 Lennox Castle, 151.
 Lens, 314.
 Lentiel, 223.
 Lesneven, Brittany, 326.
 Leuchars, 164.
 Leven, Fifeshire, 151.
 Leventhorpe Hall, near Leeds, 439.
 Lewaigue House, Isle of Man, 130, 424.
 Lewes; Castle, 106; High Street, 222, 344.
 Leyburn, Yorkshire, 441.
 Leyden Museum, 30.
 Leyland, Lancashire, 373.
 Liberton House, Midlothian, 214, 267.
 Libourne, 223.
 Lichfield; Museum Gardens, 289.
 Licune, La, near Narbonne, 211.
 Ligny, 372.
 Lilleshall; Church, 361; Manor, 458.
 Limoges, 264.
 Limoux; Church of Notre Dame de Mar-seille, 388.
 Linburn, Midlothian, 210, 260.
 Lincoln Cathedral, 225, 366.
 Lincoln's Inn, 24, 123, 255, 315, 374.
 Lincolnshire, early dials in, 80.
 Lindau, Bavaria, 225.
 Lindfield, Sussex; Old Place, 281, 336, 348, 423.
 Linlithgow; St. Michael's Church, 143.
 Liskeard; St. Matthias' Church, 407.
 Lisieux, 364, 366.
 Little Brington; "Washington's House," 112.
 Little Driffield, 60.
 Little Milton Vicarage, Oxon, 298.
 Little Saxham, Suffolk, 20.
 Little Torrington, 265.
 Littledale, Rev. R. F., motto contributed by, 397.
 Livingstone, Dr., 27.
 Locality not known; dials with mottoes, 218, 302, 308, 310, 325, 350, 356, 357, 358, 368, 372, 379, 382, 385, 409, 451, 460, 464.
 Loch Inch Castle, 466.
 Lochgoilhead, 152.
 Lochmaben, Dumfriesshire, 148.
 Lockton, 59.
 Loddington, 280.
 London, 24, 126, 344, 441; Austin Friars; Dutch Church, 243; Billingsgate, 329; Charterhouse, 126; Christ's Hospital, 248; Clement's Inn, 109; Clerkenwell, 288; Covent Garden, 24, 124; General Post Office, 206; Gray's Inn, 126; Guildhall, 126; Holborn; St. Andrew's Church, 421; Leadenhall; St. Catherine Cree's Church, 342; Leadenhall Corner, 24, 106; Lord Mayor Titchborn's Dial, 106; Middle Moorfield, 107; New Inn, Wych St., 437; Newgate; St. Sepulchre's

- Church, 126; Old London Bridge, 111, 438; St. Benetfink Church, 404; St. Botolph Without, 220; St. Clement Danes Church, 126; St. Martin in the Fields, 126; St. Pancras Gardens, 270; St. Paul's Cathedral, 133; Seven Dials, 24, 125, 126; Southwark; St. Mary Overy, 251, 273; Staining Lane; All Hallows Church, 130; Steelyard, the, 437; Stepney; St. Dunstan's Church, 126; Temple, 110, 219, 241, 365, 396, 437, 464; Walworth; Gloucester House, 106; Westminster; New Palace Yard, 241; Whitehall; King's Privy Garden, 23, 94, 100.
- Long Melford; Cordell's Hospital, 459.
- Long Sutton Church, 358.
- Loudwater, Bucks, 209.
- Lough Crew, sun-circles at, 75.
- Loughton Church, 79.
- Louise de Vaudemont, Queen, device of, 216.
- Louth Church, Lincs., 399.
- Louvre. *See* Paris.
- Lower Heyford Church, 338.
- Loweswater; lines in parish register, 225.
- Lowick, 384.
- Luc, Le, near, 343.
- Lucian, epigram by, 8.
- Lugano, near, 238, 399, 400.
- Lullington Church, Somerset, 504.
- Lumbutts, near Todmorden, 284.
- Lumley Castle, 108.
- Lund, Yorkshire, 258.
- Lydiard St. Lawrence Church, 72.
- Lydgate on portable dials, 19.
- Lydney, Gloucestershire, 127.
- Lyme, Dorset, 361.
- Lyme Cage, Lyme Park, Cheshire, 386, 468.
- Lyminge Church, 69.
- Lympne, Kent, 366.
- Lyndhurst, Hants, 301.
- Lyne, Rev. Father, dial maker, 100.
- Lyons, 168.
- Macclesfield; Jordan Gate, 340, 369.
- Madagascar, division of time in, 7.
- Madrid; Archæological Museum, 47.
- Magdeburg, 12.
- Maidstone Church, 451.
- Maker Church, near Devonport, 402.
- Makerston House, Kelso, 468.
- Maladière, La, 296.
- Malaucène, 280, 347.
- Malemort, 268.
- Malew Church, Isle of Man, 420.
- Malosa, near Voiron, 276.
- Malta, 412. *See also* Valetta.
- Malvern; Priory Churchyard, 273.
- Manc, 409.
- Mancetter Church, 407.
- Manchester Cathedral, 133.
- Manosque, 273.
- Mans, Le, 311.
- Mansfield; the Market Place, 121.
- Mant, Bishop, lines by, 411.
- Manx sun-dials, 129; mottoes, 219, 231, 333, 351, 420.
- Mapledurham House, 322.
- Marazion; St. Hilary Church, near, 207.
- Marcus Aurelius Antoninus, 32.
- Maresfield, Sussex, 24.
- Margate; St. John's Church, 205, 483.
- Market Deeping Church, 429, 432.
- Market Harborough Church, 293.
- Market Overton, 136.
- Market places, dials in, 121, 147.
- Marlborough; High Street, 246.
- Marlston Church, Berks, 315.
- Marrington Hall, Shropshire, 236, 259, 265, 435, 457.
- Marsac, 388.
- Marseilles, 319; near Marseilles, 426, 467.
- Marston Magna; Church Farmhouse, 214.
- Marston Montgomery, 79.
- Martigny, 257.
- Martine, Dr., of Haddington; dial in possession of, 160.
- Martineau, Harriet, 226.
- Martock, 123.
- Marton-cum-Grafton Church, 59, 259.
- Marvell, Andrew, lines by, 94.
- Marwood Church, Devon, 427.
- Masserano, 420.
- Matlock Churchyard, 426.
- Mattishall Church, 393.
- Maughold, Isle of Man, 424.
- Maussane, 277, 312.
- Mavesyn Ridware Church, 483.
- Maxey, Northants; Church, 324; Vicarage, 447.
- Maxtoke, Warwickshire, 219.
- Maxwell, Sir Herbert, lines by, 299, 349.
- Mayenne, 374.
- Maymac, 376.
- Mayres, 356.
- Mayshade, Loanhead, 205.
- Mazza Cozzile, 390.
- Mean-time dials, 27.
- Meanwood, near Leeds, 263.
- Méaudre, 277, 332.
- Meggatland, 150.

- Melbury Castle, Dorset, 222, 314.
 Mélézes, 335.
 Melrose, 143, 149.
 Melsonby, Yorkshire, 432.
 Melville House, Fifeshire, 157.
 Melvin, Richard, dial-maker, 409.
 Menaggio, 329, 335.
 Mende, 218, 360.
 Mens, 366, 415.
 Mentone, near, 272.
 Menwith Hill, Darley, 288, 396, 457.
 Meredith Court, Gloucestershire, 420.
 Meridian line in Salisbury Close, 129.
 Meridian lines on Church floors, 25.
 Mersham Church, 69.
 Merthyr Mawr, 263.
 Mesma; Franciscan convent, 272, 375.
 Methwold, Norfolk, 457.
 Mexican division of time, 16 (note).
 Mexican sun-dials, 15.
 Meylan, 230.
 Meyrargues, 405.
 Micheldean; Rectory Garden, 266, 293, 330, 366.
 Mickleton; Church, 315; Manor House, 340.
 Midcalder House, 154.
 Middleburg, Holland, 472.
 Middleham, Yorkshire, 397.
 Middlesbrough; Albert Park, 220, 256, 425, 429, 432, 438.
 Middleton Church, Lancashire, 319.
 Middleton, near Pickering, 477.
 Middleton St. George, 52.
 Middleton Tyas Hall, 325.
 Midmar Castle, 159.
 Milan, 207, 414; Church of S. Vittore, 455; Hospital, 241; Via S. Vittore, 466; Villino Vanwiller, 296.
 Milburn Church, 64.
 Mill Hill, 269.
 Miller, Hugh, 165.
 Millrigg, Culgaith, 417.
 Milton, Berks, 362.
 Milton, near Gravesend, 446.
 Minster, Sheppey, 362.
 Minster Court, Isle of Thanet, 422.
 Mirabel, France, 355.
 Mirepoix, 209, 262; Cemetery, 301; Convent, 452; Maison Avignon, 367.
 Missiones, Argentina, 181.
 Mithraic inscriptions, 413.
 Moat Hall, near Great Ouseburn, 262.
 Moccas Court, Herefordshire, 99, 225, 241, 296, 396, 408, 448.
 Mohammedan dials, 12.
 Moissac; Ecole des Frères, 313; Maison Catusse, 267; the Place, 346; St. Martin's Church, 229; St. Pierre, Church of, 449.
 Molines, Queyras, 360.
 Mollia, Val Sesia, 271, 467.
 Moltrasio, 338.
 Monasterboice, 83.
 Monastero, 404, 422.
 Monétier-les-Bains, Le, 213.
 Monk Fryston, Yorkshire, 371; the Church, 60, 345.
 Monkton Combe, 128.
 Monkton Farleigh, 297.
 Monkwearmouth, 215.
 Monquin, 338.
 Monreale, 447; near Monreale, 414.
 Mont Cenis railway, 423.
 Mont de Lans, 428.
 Mont Genève, 225; the Pass, 389.
 Mont Valezan, 274, 275, 366.
 Montagny, 248, 259.
 Montauban, 446, 453; Church of St. Joseph, 358; Place St. Jean, 400.
 Montcarra, 280.
 Monte Soracte, 257.
 Montepulciano, near, 365.
 Montereau, 210.
 Montfaucon, dial figured by, 46.
 Montferrat, 277.
 Montgomery, James, lines by, 440.
 Monthey, 328, 412, 469.
 "Monthly Packet," motto noted in, 257.
 Montjoie, 314, 444.
 Montmayeur, Château de, 373.
 Montméry, 385.
 Montmeyran, near Varages, 444.
 Montmorency, 215, 277.
 Montoire, 272.
 Montolieu, 326.
 Montpellier; the Lycée, 460; Maison Gasquet, 381.
 Montpellier, near, 208.
 Monza, 381.
 Moor Park, 28.
 Morden College, Blackheath, 459.
 Moreton Pinkney, 78.
 Morgan, Sylvanus, mottoes quoted by, 236, 248, 478.
 Morges, 443.
 Mornington Court, 448.
 Morpeth Church, 63.
 Morvah Church, Cornwall, 459.
 Morwenstow Church, 316.
 Mottoes on sun-dials, 25.
 Mottram, Cheshire, 474.
 Moulins, 330, 463; the Museum, 170.
 Mount Melville, near St. Andrews, 158, 273.

- Mount Quhanny, Fifeshire, 341.
 Mountains, near Hildenborough, 218.
 Mountstuart, 151.
 Mouriez, 413.
 Moutiers, 303, 452.
 Müller, Johann. *See* Regiomontanus.
 Muller, J. H., dials figured by, 260, 358.
 Munich; Frauen Kirche, 465; National Museum, 310, 375, 423; Royal Palace, 176.
 Münster, Sebastian, 20, 94; dial figured by, 460.
 Murano, 210, 308.
 Murets, Les, 413.
 Murette, La, 223.
 Murs, 230.
 Muttra, 180.
 Mylne, John, dial maker, 157.

 Naburn Hall, 108.
 Nairn, 148.
 Najac, 406.
 Nant; Ursuline Convent, 239.
 Nantwich Church, 276.
 Naples; Convent of the Camaldoli, 280; Museum, 38, 185.
 Natural sun-dials, 17.
 Naworth Castle, 24.
 Neasham, co. Durham, 457.
 Neaum Crag, Westmoreland, 402.
 Négrepélisse, 472.
 Neidpath Castle, 153.
 Nemours, 349.
 Nervi, 453.
 Névache, 449.
 Nevers, 450, 460; Cathedral, 321, 466; Château, 172.
 Newark, 324; the Chantry, 374, 400.
 Newbattle Abbey, 162.
 Newbiggin, Cumberland, 66, 411.
 Newcastle-on-Tyne; Museum of the Society of Antiquaries, 102, 399, 442; Neptune Works, 269; Three Mile Bridge, 120.
 Newhall, Penicuik, 163, 354.
 Newlyn, near Newquay, 482.
 Newlyn St. Peter, near Penzance, 439.
 Newnham, 78.
 Newquay; Plen, 431.
 Newstead, near Melrose, 143, 144.
 Newstead Abbey, 114.
 Newton, Sir Isaac, 112, 135, 136.
 Newton Arlosh Church, 64.
 Newton House Woods, near Whitby, 300.
 Newton St. Loe Church, 72.
 Nice, 217, 223, 445; Capuchin Convent, 368; Chapel of St. Philippe, 404; Rue de France, 297; Rue de la Préfecture, 416.
 Nice, near, 310, 397.
 Niddrie Marischal, near Edinburgh, 416.
 Niederwald, 220.
 Ninane, 409.
 Niozelle, 238.
 Nisbet, 400.
 Nizza, Monferrato, 248.
 Noippy, 313.
 Norchard, Hartlebury, 217.
 Norfolk, dials in, 69, 128.
 Norrköping, 178.
 Norse division of day, 16.
 North Barr, Renfrewshire, 160.
 North Bradley Church, Wilts, 426.
 North Collaton, Devon, 289.
 North-hill Rectory, Beds, 246, 399.
 North Luffenham, 357.
 North Minims, 79.
 North Stoke, Oxfordshire; St. Mary's Church, 73.
 North Stoke Church, Somerset, 71.
 North Wingfield, 264.
 Northallerton Church, 359.
 Northampton; Grammar School, 361; Queen's Cross, 122, 203; St. Sepulchre's Church, 78.
 Northamptonshire, early dials in, 74.
 Northumberland, early dials in, 63.
 Norton by Daventry, 78.
 Nostradamus, 413.
 "Notes and Queries," motto recorded in, 326.
 "Notizie Gnomoniche," (see Preface), 209, 217, 226, 228, 238, 242, 245, 248, 259, 261, 268, 281, 292, 300, 304, 307, 309, 312, 332, 338, 347, 361, 365, 372, 380, 383, 391, 393, 394, 397, 398, 402, 410, 411, 412, 415, 417, 428, 444, 445, 447, 451, 461, 462, 469, 470, 471.
 Noves, 301.
 Noyarey, 472.
 Noyon, near, 421, 449.
 Nun-Appleton Hall, Yorks, 379.
 Nuneaton Church, 79.
 Nuremberg, 20, 324, 389, 412; Burg Strasse, 341; Museum, 176, 205, 231, 235, 412, 428, 473, 479; Nassauerhaus, 176; S. Lorenzkirche, 378, 469.
 Nus, Val d'Aosta, 366.
 Nyon, 302.

 Oakham; Market Cross, 122.
 Oakley Park, Shropshire, 109.
 Oatlands Palace, 96.
 Oatlands Park, 448.

- Obelisk dials, 149.
Oberhofen, 467.
Octagonal pocket dial with motto, 363.
Oddi, Muzio, on Zoccolo dial, 22.
Offchurch, Warwickshire, 222.
Offerton, Cheshire, 205.
Old Byland Church, 56, 76.
Old Thundridge Church, 318.
Oldhamstocks, 144, 153.
Oliver, Major-Gen., R.A., 27.
Orange motto, co. Roscommon, 326.
Orchomenes, Bœotia, 41.
Orleans; St. Paterne, 437.
Orly, 409.
Ormsby Church, Norfolk, 476.
Ormsby, Yorkshire, 457.
Ornavasso, Lago Maggiore, 404.
Ornon, 367.
Oronsay; dial on Celtic cross, 164.
Oropa, 210.
Orres, Les, 260, 306, 377.
Orta; Sacro Monte, 460.
Orvieto, 463.
Osler, Mr., dial belonging to, 104.
Osmond, Mr. W., motto suggested by, 441.
Ospedaletti, near, 327.
Ossington Hall, Notts, 425.
Otterford Church, Somerset, 361, 426.
Oum-el-Awamid, Phœnicia, 36.
Over Peover, Cheshire, 225.
Over Silton, 60.
Overton, Flintshire, 222, 361, 400.
Ovingdean, 396.
Oxford, 330; All Souls' Coll., 134, 135, 366; Ashmolean Museum, 187; Balliol Coll., 135; Brasenose Coll., 135; Christchurch Coll., 135; Convocation House, 130; Corpus Christi Coll., 21, 90, 118, 253, 268, 283, 369; Exeter Coll., 135; Holywell Church, 135; Magdalen Coll., 135; Merton Coll., 135; New Coll., 135; Pembroke Coll., 135; Queen's Coll., 135; St. John's Coll., 135; St. Mary's Church, 21, 116; St. Mary Hall, 135; Trinity Coll., 135; Wadham Coll., 106, 135.
Oxfordshire, early dials in, 73.
Oyeu, 375.
Ozier, 413.
Packwood House, Warwickshire, 123, 361, 395.
Padua, 239; Cathedral, 395; St. Antonio, 467; University, 229, 309; Via Bron-dolo, 462.
Paget, Rev. F. E.; motto quoted by, 266.
Painswick, Gloucestershire; Castle Hall, 314; Church, 343; Painswick House, 283, 432.
Pakenham Vicarage, 111.
Paladru, 277, 337.
Palermo, 259, 447, 452; Municipio, 366; National Museum, 41; Villa Giulia, 175.
Palermo, near, 414.
Palestine, dials in, 181.
Palestrina, 33; Cathedral, 43.
Pallanza, near, 353.
Palliardin, 364.
"Pallone," the game of, 410.
Palmer, Robert, dial maker, 164.
Palmer's Green; Skinner's Almshouses, 286.
Pamiers, 212.
Pananches, Les, 302, 461.
Pancorba, 174.
Pannal, Yorkshire, 385.
Paray-le-Monial, 217, 226, 258, 454, 467.
Paris, 449, 454; Abbey of St. Denis, 168; Avenue de St. Cloud, 398; Bastille, the, 168, 447, 471; Boulevard du Temple, 403; Catherine de' Medici's Column, 22, 168; Charité, La, 403, 404; Cimetière des Innocents, 421; Cimetière St. Severne, 264, 271; Cloître des Jacobins, Rue St. Dominique, 465; Collège de Navarre, 278, 346; Collège de Quatre Nations, 168; Collège du Cardinal Le-moine 209; Collège du Marché, 320, 321; Conservatoire des Arts et des Métiers, 256, 308; Convent of the Capuchin Nuns, Place Vendôme, 301, 309; Convent of the Célestins, 296, 399, 403, 429; Convent of the Grands Augustins, 244; Convent de la Merci, 460; Convent des Minimes, Place Royal, 337, 360, 403, 406; Convent of the Petits Augustins, 238, 292, 380; Convent of the Récollets, 206; Convent of the Théatins, 372, 376, 391; Cour du St. Esprit, 291; Court of the Gobelins, 449; Ecole des Beaux Arts, 238, 380; Halles au Blé, 168; Hôtel Cluny, 339, 403; Hôtel des Invalides, 418; Hôtel Dieu, 343; Hôtel du Mars, Rue du Tournon, 406; Institut, 168; Jardin des Plantes, 282, 445, 456; Jardin du Feuillant, Rue St. Honoré, 279; Louvre, the, 8, 37, 43; Luxembourg, the, 282; Monsieur de Fieubet's House, 368; Musée Cluny, 204, 239, 275, 360, 367; Palais de Justice, 324, 388; Palais Royal, 232, 315; Passage du Petit St. Antoine, 289, 350, 369; Place des Victoires, 244; Quai des Théatins, 460; Quai St. Eustache, 372; Ramponneau aux Porcherons, 313; Route de Marly, 333, 335; Rue Bourg

- l'Abbé, 369; Rue Contrescarpe, 290; Rue d'Enfer, 327; Rue de la Chaussée des Minimes, 401; Rue de Lille, 245; Rue de Rivoli, 463; Rue des Fosses, St. Victor, 402; Rue des Petits Champs, 443; Rue des Poules, 398; Rue du Cherche-Midi, 301; Rue du Faubourg St. Antoine, 290, 346, 371; Rue du Faubourg St. Martin, 374; Rue de Petit Musc, 279; Rue St. Jacques, 360, 368; Rue St. Thomas du Louvre, 364; Rue Vaugirard, 216; St. Gèneviève, 419, 470; St. Germain des Prés, 346; St. Lazaire, 268, 453; St. Nicholas des Champs, 408; St. Sulpice, 25, 261; Séminaire de St. Sulpice, 218; Séminaire Magloire, 277; Sorbonne, the, 403; Théâtre Favart, motto proposed for, 296; Tuileries, the, 416; Vieille Rue du Temple, 337.
- Park Hill, near Oswestry, 370, 424, 425, 428.
- Parkham Church, 451.
- Parkstone, 322.
- Passy, 364; Château, 342.
- Patrick, I. of Man; St. Patrick's Church, 247, 351, 433, 457.
- Patrington, Yorkshire, 98.
- Patixbourne Church, 69.
- Pau, 303.
- Paular, Spain, 21.
- Pavone Canavese; Oratory of Sta. Marta, 391, 443, 444.
- Payn, James, 317.
- Peebles; Chambers' Museum, 149, 153.
- Peel Castle, I. of Man, 129.
- Pegli, 415.
- Peïrole, 361.
- Peisey, Savoy, 251, 312.
- Pelicion dial, 46.
- Pelvoux, 289.
- Pencaitland, 146, 148.
- Pennoxton Court, 383.
- Pennsylvania Castle, I. of Portland, 104.
- Penrhos, Holyhead, 271.
- Penzance; St. Mary's Church, 411, 425.
- Pères Eudistes, College of the, 411.
- Périer, Le, 313.
- Perpignan, 349, 357.
- Perridge, Pilton, Somerset, 284, 320.
- Persian compass dials, 181.
- Perth; Greyfriars' Church, 143.
- Perugia; Museum, 278, 339.
- Peruvian sun-dials, 15.
- Peterborough; Museum, 319; Priestgate, 350.
- Pézenas, 329.
- Phaidros, dial made by, 41.
- Phaëtra, or quiver-dials, 40.
- Philadelphia; Museum of Philosophical Society, 176.
- Piacenza, 404.
- Pickering Church, Yorkshire, 467.
- Pie Cavallo, Val d'Oropa, 237.
- Pierre Rue, 208.
- Pierrebrune de l'Albenc, 280.
- Pieve, near Cento, 343.
- Pieve di Cadore; Church of San Crocifisso, 281, 366, 452, 460.
- Pieve di Rendana, 346.
- Pieve di Sori, near, 395.
- Pigg, John, dial erected by, 120.
- Pillar-dials, 24, 116-127.
- Pillar-dials (portable), 187.
- Pilling; St. John's Church, 437.
- Pin, Le, 305.
- Pine Banks Tower, Thorpe-next-Norwich, 481.
- Pinet, Le, 277, 332, 363, 411.
- Pini, Valentino; dial figured by, 209.
- Pinkie House, Midlothian, 163.
- Pino, Piedmont, 404.
- Piozzi, Mrs., 452.
- Pisa, 297; Certosa dei Calci, 463.
- Pitferan, 158.
- Pitmedden, Aberdeenshire, 157.
- Pitreavie, 142, 154.
- Pittington Church, 53.
- Plampinet, 250, 359; the Church, 383.
- Plane dials, 38.
- Platre-Rousel, near Mombonnet, 418.
- Plaudren, 268.
- Plautus, lines by, 10.
- Plen, Newquay, 431.
- Plumstead, Kent, 426.
- Pocklington Church, 381.
- Poët, Le, 244, 250.
- Poirino, 230, 281, 327.
- Polesworth, near Tamworth, 283.
- Poliénas, 305.
- Polton, near Edinburgh, 162.
- Pompeii, 38, 46.
- Pont de Beauvoisin, 408.
- Pont de Cervières, 277, 313.
- Pont du Siagne, near Cannes, 298.
- Pont-en-Royans, 344, 389, 404.
- Porchère, 299.
- Pornier, convent of, near Geneva, 400.
- Port Elphinstone, Aberdeenshire, 293.
- Port Royal, 318.
- Port Royal des Champs, 449.
- Portable dials, 19, 27, 47, 176.
- Portable dial, motto read on a, 338.
- Porté, 486.
- Porto Fino, 206.

- Porto Maurizio, 223.
 Portway Hall, near Oldbury, 286.
 Potterspury Church, 76.
 Poulton-le-Fylde Church, 361.
 Poundisford, near Taunton, 309.
 Pozzuoli, 461.
 Pra, on the Riviera, 464.
 Prades, 385.
 Prees, Salop, 408.
 Prelles, 204.
 Prestonpans, 143, 164.
 Preuilly, Château de, 403, 447.
 "Prince Albert Victor's dial." *See* Edinburgh.
 Ptolemy, King, dial dedicated to, 38.
 Puisseaux, 404.
 Purbachius, writer on gnomonics, 20.
 Putney; St. Mary's Church, 437.
 Puy St. André, Le, 359.
 Puy St. Pierre, 303.
 Pynes, Devon, 318.
 Quadrant dials, 194.
 Quaix, 309.
 Queen's Charlton, 123.
 Queyras; Maison du Roi, 304, 377; Ville-Vieille, 204, 254, 303, 389. *See also* Château-Queyras.
 Queyrelles, Les, 306, 312.
 Queyrelles Hautes, Les, 364.
 Queyrières, 412.
 Quincieux, 222.
 Quinsons, 291.
 Rabastens d'Albigeois, 218, 233.
 Ramsay, Allan, 354.
 Ramsey Church, Hunts, 421.
 Ramsey, Isle of Man, 458.
 Raughton Head, Cumberland, 400.
 Ravenna, 35; S. Apollinare in Classe, 290, 470.
 Rayet, Professor, 29.
 Rayon, 375.
 Reading, 466.
 Réaumont, 289, 306, 428.
 Recoing, 450.
 Recorde, D., writer on dialling, 23.
 Redbourne Church, Lincs., 478.
 Redding, Cyrus, motto quoted by, 359.
 Reepham, Norfolk, 281.
 Reflective dials, 134, 136.
 Regiomontanus, gnomonist, 20.
 Regune, Canton de Taverne, 326.
 Reigate Church, 426.
 Renage, 420.
 René de Briolay, dial dedicated to, 171.
 Replat, Le, 378.
 Reuleaux, Professor, 27.
 Rheims Cathedral, 166.
 Rho, near Milan, 330.
 Rhodesia, Semitic gnomon discovered in, 7.
 Rians, 419.
 Riccarton Castle, 164.
 Rice, Thomas, dial maker, 24.
 Richelieu, Château of the Cardinal de, 336.
 Richmond Green, 111.
 Ridley Hall, Northumberland, 211, 369, 459.
 Rieucros, 257.
 Rieux, 239.
 Ring-dials, 27 (note), 109, 188, 193, 195, 213, 215, 289, 317, 322, 395, 432, 433.
 Ringenburg, 265.
 Riom, 400.
 Ripon Minster, 132.
 Ripley, Surrey, 247, 322, 372, 428.
 Ripple Churchyard, Gloucestershire, 114.
 Ritter, Franz, dials figured by, 245, 373, 381, 433, 484.
 Ritter Zahony, Baron von, dial in possession of, 33.
 Riva, Lago di Garda, 239, 318.
 Riva, Riviera di Ponente, 395.
 Riva, Val Sesia, 291, 337.
 Rives, 329; Maison de Segrais, 248.
 Riviera, motto read on the, 419.
 Rivière, Baron de, 166.
 Rivière, La, 223, 260, 360, 448, 451; Château, 402; Maison du Bac, 329; Maison Millaiz, 344.
 Rochdale; the Heights, 456; Lord St., 132; Manor House, 108.
 Roche, 290.
 Roche-de-Rame, La, 203.
 Rochefoucauld, La, 414; Château de, 265.
 Roches, 450.
 Rochester; Deanery Garden, 103; Old Bridge, 111.
 Roman division of time, 16.
 Roman portable dials, 185, 190.
 Romans, 311.
 Rome, ancient, dials in, 9, 31, 45, 46.
 Rome, modern, 360, 466; Collegio Romano, 31; Convent of Sta. Sabina, 296; Hospital della Consolazione, 329; Istituto delle Suore di S. Vincenzo di Paolo, 207; Museum of the Capitol, 31; Sta. Maria degli Angeli, 25; St. Peter's, 264, 300; Vatican Museum, 34, 36, 44; Via Gregoriana, 388.
 Roquebrune, 361.
 Roquette, La, near Castelnaudary, 460.
 Roquette, Château de la, 382.

- Roscoff; Notre Dame Church, 229, 449.
 Rose, Daniel, dial maker, 238.
 Rosendal Djurgarden, near Stockholm, 330.
 Rosenheim, 249.
 Rosier, Le, 234.
 Ross, Thomas, Esq., F.S.A., 140.
 Rossetti, D. G., 86.
 Rossiglione, near Voltri, 207.
 Rothbury; All Saints' Church, 63.
 Rotherham; the Church, 278, 328, 365;
 "The Holmes," 247.
 Rothiemurchus, 356.
 Rothwell Church, near Leeds, 466.
 Rouelles, Normandy, 20, 166.
 Rouen, 449; the Lycée, 272, 308.
 Rougemont, Switzerland, 302.
 Rousse, Jacques, dial maker, 170.
 Royal Society, Museum of the, 136.
 Royamont, Abbey of, 355.
 Roybon, 308, 422.
 Rubislaw Den, Aberdeenshire, 159.
 Ruchlaw, East Lothian, 153.
 Rugby; the Church, 315; Elmhurst, 287;
 Hospital of St. Cross, 432.
 Ruishton Church, 228.
 Rushen, Isle of Man, 284.
 Rushton, Northants, the Lodge, 386.
 Russia, dials in, 179.
 Rustington Church, 66.
 Ruthin Castle, 409, 426.
 Rye, 132; the Town Hall, 425, 429.
 Ryton-on-Dunsmore Church, 79.
 Sabianus, Pope, 12.
 Sachat, 250.
 Saddlebow, Lunedale, 435.
 Saddleworth, Yorkshire; Upper Mill, 220.
 St. Affrique; Notre Dame Church, 240,
 408.
 St. Andras, 327.
 St. Antoine, Pelvoux, 416.
 St. Aubin des Ponts de Cé, 167.
 St. Austell, 255.
 Sta. Barbara Mission, California, 321.
 St. Barbe-en-Ange, Abbey of, 264.
 St. Barnabé, Sillans, 291.
 S. Bartolomeo, near Spezia, 356.
 St. Béat, 449.
 St. Bees' Church, 66.
 St. Blaise, 423.
 St. Blaise du Bois, 460.
 St. Budeaux, 255, 384.
 St. Buryan's Church, Cornwall, 365.
 St. Cassien, 208.
 St. Caterina, near, 329.
 St. Chaffrey, 210, 213, 332, 336, 370.
 St. Chef, 239, 462.
 St. Clair, 240.
 St. Corneille, Abbey of, 349.
 St. Croix, Priory of, 444.
 St. Didier, 259.
 St. Didier de la Tour, 218.
 St. Egrève, 309.
 St. Etienne-de-St.-Geoirs, 329, 335.
 Ste. Euphémie, 313.
 St. Eval Church, Cornwall, 478.
 St. Fargeau, Château de, 229.
 St. Foy, Savoy, 460.
 St. Foy, Château of, near Lyons, 168.
 St. François, Tours, 363.
 St. Gengoux, 281.
 St. Geoire, 315, 329.
 St. Germain-la-Blanche-Herbe, 218, 449.
 St. Gervais, 203, 306, 361.
 St. Girons, 229, 312.
 St. Hilaire du Rosier, 220, 469.
 St. Hilary, Cornwall, 207.
 St. Ismier, 219.
 St. Ive's Church, near Liskeard, 383.
 St. Ives, Cornwall, 139.
 St. Jean de Bresque, 466.
 St. Jean de Grosbec, 465.
 St. Jean de Maurienne, 336.
 St. Just, Cornwall, 399.
 St. Lattier, 463.
 St. Léger de Guebwiller, 463.
 St. Levan Church, Cornwall, 403.
 St. Madron's Church, near Penzance, 437.
 St. Marcellin, 212, 306.
 S. Marcello Pistoiese, 291.
 St. Martin by Looe, Cornwall, 407.
 St. Martin d'Hères, 211.
 St. Martino, Casaleggio, 313.
 St. Mary's, Scilly, 115.
 St. Maurice l'Exil, 265.
 St. Merryn, Cornwall, 426.
 St. Michel Chef, 275.
 S. Michele in Isola, 239.
 St. Nicholas, Hte. Savoie, 250.
 St. Nicholas de Macherin, 379.
 St. Nicolas du Tertre, 446.
 St. Pancras Gardens, 270.
 St. Paul, Savoy, 208.
 St. Paul d'Izeaux, 329.
 St. Paulen, Hte. Loire, 376.
 St. Pens, Convent of, near Nice 217.
 St. Pierre, Canton Valais, 278, 454.
 St. Pierre de Bressieux, 275.
 St. Quentin, 220, 336, 359.
 S. Remo, 415.
 St. Rémy, 405, 448.
 St. Romans, 378, 380.
 St. Sauveur, 404.
 St. Savin, 289, 290, 308.

- St. Siméon de Bressieux, 222, 354.
 St. Stephen by Saltash, 408.
 St. Trinité, Laval, 204.
 St. Véran, 218, 303, 407, 453.
 Saintes ; Church of St. Pierre, 422.
 Saintsbury, Gloucestershire, 123.
 Salbertrand, 265.
 Salisbury ; the Close, 129, 376.
 Salle, La, Hautes Alpes, 277, 326, 416.
 Sally Hill, near Gosforth, 207.
 Saltash, 326, 408.
 Salzburg, 417.
 Sandal, Yorkshire, 467.
 Sandhurst, Kent, 255.
 Sandringham House, 315, 334.
 Sauchie, Stirlingshire, 150, 163.
 Saul, co. Down, 84.
 Saure, near Tione, 364.
 Sautan, Isle of Man, 458.
 Savona, 367.
 Saxe, La, near Courmayeur, 309.
 Saxmundham Churchyard, 105.
 Saxon Psalter, drawing of dial in, 86.
 Saxthorpe Church, 430.
 Scandinavian dials, 178.
 Scartho, near Grimsby, 374.
 Schaffhausen Church, 22.
 Scheyern, Abbot Corbin of, dial dedicated to, 297.
 Schlisser, Christopher, dial maker, 177.
 Schloss Buttrio, 33.
 Schöner, Andreas, writer on gnomonics, 20.
 Schultz, Barthol., 20 ; dial figured by, 344, 363, 470.
 Schwerin ; Palace Garden, 176.
 Schwyz, 235.
 Scilly Isles ; St. Mary's, 115.
 Scorton, Yorkshire ; Greenbury Farm, 247.
 Scotsraig, Fifeshire, 107.
 Scott, Sir Walter, 252, 476.
 Scottish dials, 23.
 Scultetus. *See* Schultz.
 Seaford, Surrey, 451.
 Seaham Church, co. Durham, 432.
 Seamer Church, Yorkshire, 203.
 Seaton Moss, 137.
 Sècles, 408.
 Sedbury Hall, Yorkshire, 249.
 Seend, Wiltshire, 129.
 Selborne, 111.
 Semitic gnomon in Rhodesia, 7.
 Sennecey-le-Grand, 217.
 Serjeantson, G. J., Esq., 138.
 Sermérieu, 395.
 Serravalle d'Asti, 207.
 Sestri Levante, 401.
 Sestri Ponente, 203.
 Seton Palace, 145.
 Settle, Yorkshire, 17.
 Sèvres, 305.
 Seyssins, 306.
 Shaftesbury, 459.
 Shakespeare, references to dials, 24, 189.
 Sharp, Abraham, dial maker, 263.
 Sharp, Archbishop, of St. Andrews, 107.
 Shaw, near Oldham, 206, 348.
 Sheepstor Church, 456.
 Sheffield ; Cairn's Chambers, 262 ; Parish Church, 464.
 Shelton Church, Long Stratton, 384.
 Shenstone, Staffs., 107, 289, 414, 431.
 Shepey Magna, Leicestershire, 243.
 Shepherds' dials, 187.
 Shere Church, near Guildford, 69.
 Sherrington Church, 79.
 Shillington Church, Bedfordshire, 404.
 Shilton Church, 79.
 Ship-dials, 194.
 Shrewsbury ; the Isle, 480.
 Sidbury Church, Devon, 457.
 Sierre, 234, 401, 454, 467, 471.
 Sillans, 291, 364.
 Sinnington Church, 59.
 Sion, Canton Valais, 360, 373.
 "Sir Francis Drake's Dial," 92.
 Skelton in Cleveland, 58.
 Skibo Castle, Sutherland, 155.
 Skinners' Almshouses, Palmer's Green, 286.
 Skipsea Church, 60.
 Skipton Church, Yorkshire, 328.
 Skirbeck ; St. Nicholas Church, 280.
 Slate dial with mottoes, 236, 265.
 Sleights, near Whitby, 459.
 Sleningsford Hall, near Ripon, 271.
 Smeeth Church, 69.
 Smith, John, dial-maker, 137, 438.
 Society of Antiquaries, Proceedings of ; ring dial with motto described in, 433.
 Soham Church, Cambridgeshire, 205.
 Somersby Church, Lincolnshire, 441.
 Somerset, dials in, 24, 70, 128 ; motto on an inn, 430.
 Somerset, Duchess of, motto by, 437.
 Sondfjord, Norway, 17.
 Sordevole, 363, 395.
 Sori, 257.
 South Cerney Church, 70.
 South Ella, near Hull, 228, 280, 360, 380.
 South Queensferry, 144.
 South Stoneham Church, Hants, 406.
 South Tawton Church, 354.
 Southall, Middlesex, 406.
 Southampton ; Old Bar, 136.
 Southwark ; St. Mary Overy, 251, 273.

- Spain, dials in, 172; motto read in, 391.
 Spalding, 333.
 Speeton Church, 60.
 Spherical dials, 29.
 Spicchio, near Lamparecchio, 357.
 Splügen Pass; Custom House, 230.
 Sporle Church, 69.
 Spot dials, 318, 393, 396, 480; *see also*
 Ceiling, and Reflective dials.
 Stainburn Church, Wharfedale, 504.
 Spotorino, 449.
 Sprawley, Worcestershire, 205.
 Sroughton, near Ipswich, 467.
 Stabius, Johannes, 20, 469.
 Stacey, Rev. J. E., 394.
 Stainburn Church, Wharfedale, 504.
 Staindrop Church, 53, 324.
 Stalham, Norfolk, 426.
 Stamfordham Church, 481.
 Standish Vicarage, Gloucestershire, 338.
 Stanhope, co. Durham, 456.
 Stanton Prior Church, 72.
 Stanwardine Hall, Shropshire, 270, 294.
 Star-shaped dial, 108.
 Staverton, Glos.; Court, 114; Vicarage,
 108.
 Stazzano, 245, 454.
 Steeple Ashton, 121.
 Stephenson, George and Robert, 25, 139.
 Stiborius, Andreas, gnomonist, 20.
 Stirling; Grey Friars Churchyard, 286.
 Stobhall Castle, Perthshire, 160.
 Stockholm; Nordiska Museet, 178, 373.
 Stockport, near, 219.
 Stoke Albany Church, 342.
 Stoke d'Abernon Church, 68.
 Stoke Edith Park, 281.
 Stoke Golding Church, 79.
 Stoke Hall, Derbyshire, 114.
 Stoke Newington; Lady Abney's garden,
 407.
 Stokesay Castle, 87.
 Stokesley Church, Yorkshire, 280.
 Stolberg; the Rathaus, 258.
 Stone, Nicholas, dial maker, 94.
 Stonehouse Court, Gloucestershire, 407.
 Stoneleigh Park, 127.
 Stony Stratford, 425, 428.
 Stowmarket Church, 325.
 Stra, near Padua, 324.
 Strabo, quoted, 8.
 Strasburg Cathedral, 425, 463.
 Stretton, Cheshire, 430.
 Strevi, 394, 460.
 Stroud; Sun-dial Inn, 328, 426.
 Strypes, near Elgin, 433, 482.
 Sudeley Castle, 135, 189.
 Suffolk, early dials in, 69.
 Sulham, Berks, 430.
 Sunk dials, 89, 149.
 "Sun" newspaper, motto of, 410.
 Sun-wheels, 57, 59, 75.
 Sunderland Pier, 25.
 Superga, the, near Turin, 259.
 Surrey, early dials in, 68.
 Sussex, early dials in, 66.
 Sutton Coldfield, 397; Moat House, 129.
 Sutton Montis, Somerset, 363.
 Swalwell, co. Durham, 374.
 Sweeting, Rev. W. D., motto contributed
 by, 425.
 Swillington Church, 59.
 Switzerland, motto on dial in, 448.
 Sydenham, 226.
 Sydnop Hall, Matlock, 281.
 "Symbola Heroica," 196, 347.
 Sylve Bénite, 292, 364, 416.
 Tachbrook Church, 79.
 Tanyfrou, near Bangor, 267.
 Tarascon, 223, 238.
 Tarrant Rushton Church, 72.
 Taunton; old Market Cross, 122; Museum,
 104; Wilton House, 282.
 Tavistock; St. Eustachius' Church, 280;
 St. Peter's Church, 474.
 Taymouth Castle, 142.
 Tèche, 216, 229, 360.
 Temple, London; Brick Court, 437; Essex
 Court, 464; Inner Temple, 219; Middle
 Temple, 241; Pump Court, 396; Tem-
 ple Gardens, 110; Temple Lane, 365.
 Temple, Sir W., 28.
 Tennyson, Lord, 271, 282.
 Terrasse, La, 364.
 Terrebasse, Château de, 338.
 Terrington St. Clement, 473.
 Tesero, 234, 265.
 Testcombe, E. M. S., Esq., motto on dial
 made for, 225.
 Teutonic division of time, 16.
 Thames Ditton; Bridge's Almshouses, 465.
 Thetford; King's House, 258.
 Theobalds, 318.
 Theodoric, 11.
 Thornby Church, Northants, 326.
 Thornhill Church, Yorks, 129. *See also* 473.
 Thorp Arch Church, Yorkshire, 430.
 Thorp Perrow, 247, 435, 457, 460.
 Thorpe Hesley, 466.
 Thorpe-next-Norwich, 481.
 Threckingham Church, Lincs, 374.
 Three Mile Bridge, near Newcastle, 120.
 Thuile de Granier, La, 357.

- Thun, 237.
 Thursley Church, Surrey, 280.
 Tignes, Savoy, 313.
 Tilleuls, Les, near Perpignan, 460.
 Time, methods of dividing; Alfred the Great, 18; Anglo-Saxon, 51; Assyrian, 3; Babylonian, 2, 6; Burmese, 16; Chaldean, 16; Chinese, 15, 16; Egyptian, 3, 16; Faroe Islands, 17; Greek, 6, 16; Hindu, 16; Icelandic, 17; Jewish, 3; Madagascar, 7; Norse, 16; Roman, 16; Teutonic, 16.
 Tombètes, Les, 268.
 Tongue House, Sutherland, 151.
 Tonneins, 327.
 Toppo, Count, dial in possession of, 33.
 Tor Paterno, 36.
 Tornaveen, Torphins, 215, 222.
 Torpenhow Church, 64, 459.
 Torriano, Spanish dial maker, 21.
 Torrington, Devon, 269.
 Tottenham High Cross, 122.
 Tottenham, Lower, 419.
 Toulouse, 11; Bureau de la Navigation, 265; Préfecture Maritime, 332; Rue de Cartres, 313; Square La Fayette, 346.
 Tour, La, Piedmont, 221.
 Tour d'en Trollet, La, 364.
 Tour-du-Pin, La, 208, 223.
 Tourcil, 171.
 Tournouelles, Château de, 172.
 Touront, Le, 278.
 Tours, 213, 349, 363, 403.
 Towcester Church, 77.
 Towednack Church, 221.
 Trafume, near Canobbio, 390, 458.
 Trajan, Emperor, epigram by, 10.
 Tredegar, Monmouthshire, 321.
 Trefnant Churchyard, 407, 419.
 Trellech, Monmouthshire, 254.
 Tresham, Sir Thomas, 386.
 Trèves Museum, 374.
 Trevières, 382.
 Trivulzio, Giovanni, device of, 340.
 Troquahain, Galloway, 282.
 Troschel, Hans, dial-maker, 204, 239, 275, 331, 367.
 Troyes, 282.
 Truro; St. George's Vicarage, 277.
 Tucher, Hans. *See* Ducher.
 Tunbridge Wells; Church of King Charles the Martyr, 483.
 Turin, 388, 423.
 Turnbull, Charles, dial maker, 119.
 Turnham Green, 406.
 Tuscany, two mottoes read in, 268, 299.
 Tusculum, 30.
 Tutbury Church, 361.
 Twickenham; Dial House, 384.
 Tyndaris, 41.
 Tytherton Kellaways, 247, 269, 385, 471.
 Ujani, 180.
 "Universal ring-dials," 193.
 United States National Note, 261.
 Uphill Church, Somerset, 70.
 Uppingham; Crown Inn, 342; Unicorn Inn, 293.
 Upton, Northants, 96, 105.
 Upton St. Leonards, Glos, 325.
 Urrugne, 472.
 Uttoxeter; Alleyne's Grammar School, 274.
 Vachères, Les, 314.
 Vachette, La, 313, 352, 359.
 Val, near Brignoles, 265.
 Val d'Ema; the Certosa, 229, 257, 372.
 Val-de-la-Haye, near Rouen, 280.
 Val Mastallone, 296.
 Val Sesia, a village in, 359.
 Valadière, La, 413.
 Valbonne, near, 290.
 Valcrosia, near Bordighera, 445.
 Valetta; convent of S. Ursula, 357.
 Valjanel, 387.
 Vallauris, near Cannes, 264.
 Vallette, 444.
 Vallée de Gourdalou, near Cannes, 299.
 Vallouise, 225, 258, 260, 293, 327, 404, 467.
 Vannes, 405; Museum, 236.
 Varallo; Sacro Monte, 461.
 Varazze, 234.
 Varenna, 368; near Varenna, 376.
 Varese; Sacro Monte, 207, 210; Villa Modena, 383; Villa Quiete, 403; near Varese, 414.
 Vars, 260.
 Varzy; Museum, 227, 171.
 Vasselin, 218.
 Vatilieu; Hameau du Sabot, 223.
 Vaux, Château de, 264.
 Vegliasco, near Alassio, 415.
 Velletri, 33, 249, 466.
 Vendôme, Château of, 449.
 Venice, 238, 307; Church of the Frari, 322, 470; Sta. Maria Formosa, 320.
 Ventavon, 335.
 Ventimiglia, 324, 355, 415, 448.
 Verdélais, 371.
 Verdière, La, 329, 338.
 Verdun, Ariège, 450.
 Verdun sur Garonne, 403.

- Verrerie, La, near Carmaux, 451.
 Versailles, 394.
 Versine, La, near Chantilly, 311.
 Vesoul, 458.
 Veurey, 210.
 Vevey, 404.
 Veyrins, 172.
 Vian, 423.
 Vic ; Carmelite Convent, 207.
 Victoria and Albert Museum, S. Kensington, 27, 46, 180, 181, 206, 275, 380, 422.
 Vieil Beauge, 167.
 Vienna ; Imperial Art History Museum, 33.
 Vieux, 343.
 Vignale, 368.
 Vigo, near Pinzola, 446.
 Villard, Le, 327, 335.
 Villard-Bonnot, 277.
 Villard-la-Madeleine, Le, 336, 423.
 Villard St. Pancrace, 250, 313, 472.
 Ville-Vallouise. *See* Vallouise.
 Ville Vieille, Queyras, 204, 254, 303, 389.
 Villedieu, Cantal, 296.
 Villefranche, near Nice, 372.
 Villeneuve, Htes. Alpes, 203.
 Villeneuve, Val d'Aosta, 213.
 Villeneuve-la-Guyard, 449.
 Villeneuve sur Vère, 240, 382.
 Vins, near, 219.
 Vindrac, near Cordes, 443.
 Virieu, 314, 446, 448.
 Viriville, 419.
 Visp, 357, 360.
 Vispthal, 356.
 Vitruvius, 29.
 Vitry le François ; Convent of the Minimes, 224, 305.
 Vitry-sur-Seine, 217.
 Viviers, 290.
 Voellius, J., dials figured by, 335, 419.
 Vœu Meloisel, Château de, 367.
 Voiron ; Hameau de l'Agnelas, 356.
 Voltaire, 301, 472.
 Voltri, near Genoa, 269.
 Voreppe, 210, 358, 416.
 Voulx, 265, 355.
 Wadsley, Sheffield ; Dial-House, 355.
 Wakefield ; Parish Church, 294.
 Walgrave, Northants, 478.
 Walker, Samuel, dial maker, 241.
 Walkern Church, Herts, 352.
 Wall, Staffordshire, 426.
 Wallace, Mr., of Distinguon, dial in possession of, 458.
 Wallis, James, dial-maker and exorcist, 139.
 Wallsend ; stone circle used as dial, 18.
 Walsingham, 247.
 Waltham Rectory, Grimsby, 257, 305.
 Walther, Bernard, dial-maker, 20.
 Walton Hall, near Wakefield, 108.
 Walworth ; Gloucester House, 106.
 Wanstead ; Elm Hall, 304.
 Warburton Church, Cheshire, 433.
 Warburton, Mr. Egerton, 326, 433.
 Warehorne Church, 69.
 Warnford Church, 67, 68.
 Warrington ; School, 350 ; - Stanley Street, 486.
 Warwick, 466 ; Leicester Hospital, 135 ; The Priory, 132, 287.
 Warwick, Countess of, evergreen dial devised by, 314.
 Warwickshire, early dials in, 66, 79.
 Washington, George, 112.
 Waterfall, Staffordshire, 455.
 Wath, near Ripon, 457.
 Watson, William, dial maker, 137.
 Watts, Dr., motto by, 407.
 Waygateshaw, 158.
 Weaverham, 281.
 Weaverthorpe Church, 53.
 Weekley, Northants, 422.
 Welbury Church, Yorks, 440.
 Wellcombe, Devon, 265.
 Wellingborough, 408 ; Grammar School, 270, 379.
 Welwyn, Herts, 249.
 Wemmergill Lodge, 435.
 Wensley Church, Yorks, 213.
 Wentworth, 205, 323, 452.
 Wentworth Castle, 26.
 Wentworth Woodhouse, 358, 468.
 West Boldon, co. Durham, 105, 322.
 West Felton, Salop, 206, 392.
 West Ham, 385.
 West Kirby ; St. Bridget's Church, 66.
 West Moor, near Newcastle, 139.
 West Thorney, 67.
 West Wickham House, Surrey, 359.
 West Wycombe Park, 114.
 Westbury Church, Wilts, 317.
 Westbury on Severn, 261.
 Westminster ; New Palace Yard, 241.
 Westmoreland, early dials in, 63.
 Weston Mill Farm, St. Budeaux, 384.
 Weston-under-Penyard, 70.
 Weston Underwood, 112.
 Westward Church, Cumberland, 474.
 Westwood Manor House, Wilts, 91.
 Wetherall, Cumberland, 214, 328.
 Weybridge, 126.
 Whaddon, Bucks, 79.
 Whatcote, 123.

- Whatton Abbey, Yorkshire, 443.
 Whatton House, near Loughborough, 110.
 Wheddon Cross, Somerset, 425.
 Whenby Church, Yorkshire, 504.
 Whickham, co. Durham, 388.
 Whitburn Church, Durham, 322.
 Whitby, 362.
 Whitcheater, Duns, Berwick, 420.
 White, Gilbert, 111.
 Whitehall; Privy Garden, 23, 94, 100.
 Whitford Church, Flintshire, 268.
 Whitley Hall, Ecclesfield, 344.
 Whittier, J. G., lines by, 481.
 Whitton-le-Wear Church, 457.
 Whitton Shields, 108.
 Whitworth Church, Durham, 274.
 Wigborough, Somerset, 104.
 Wiggshall, Norfolk, 426.
 Wigmore Grange, Herefordshire, 225, 468.
 Wigton Hall, Cumberland, 374.
 Wilkins, Dr., of Wadham College, 134.
 Willerby Church, near Scarborough, 437.
 Willesden Church, 247.
 Wilson, Hugh, dial maker, 164.
 Wilton; Market Cross, 99.
 Wilton Bridge, near Ross, Herefordshire, 253.
 Wimborne Minster, 127.
 Wimslow, Cheshire; Elm Hirst, 480.
 Winchester; St. Maurice's Church, 135;
 St. Michael's Church, 67, 68.
 Winchester College, 135, 218, 246, 459.
 Wind dials, 44, 45, 46.
 Window dials, 130, 214, 246, 287, 321,
 336, 348, 359, 379, 394, 404, 452, 459,
 485.
 Wingfield, Derbyshire; Manor House, 136.
 Wingfield, Kent; the Church, 69.
 Windsor Castle, 276; St. George's Chapel,
 135.
 Winkleigh Church, Devon, 316.
 Withiel, Cornwall, 426.
 Witikendus, writer on dialling, 23.
 Woburn, Bucks, 426, 439.
 Wolfhamcote, 127.
 Wolverhampton; St. Peter's Church, 428.
 Wolvesdon, co. Durham, 400.
 Wood, a; motto for a dial at the entrance of
 a wood, 458.
 Wood, J. B., Esq., mottoes contributed by,
 485, 486.
 Woodborough Manor House, Wilts, 316.
 Woodchurch, Cheshire, 111.
 Woodford Halse, Northants, 349.
 Woodhorn Church, 412.
 Woodhouselee, 153.
 Woodplumpton, 109.
 Woodsome Hall, near Leeds, 457.
 Woodstock, 122.
 Woodville, Leicestershire, 284, 473.
 Wooldale, near Holmfrith, 458.
 Woolsthorpe Manor House, 136.
 Woolwich; R. M. Academy, 218.
 Wootton Church, Oxon, 291.
 Wootton Warren Church, 79.
 Wordsworth's "Excursion," 439.
 Worthing, 401.
 Wortley, near Sheffield, 241.
 Wotton-under-Edge; Bournestream House,
 287.
 Wragby Church, Yorkshire, 478.
 Wren, Sir Christopher, 134.
 Wrenbury Hall, Nantwich, 469.
 Wright, Thomas, dial maker, 25.
 Writhlington Church, Somerset, 478.
 Wroxtton Abbey, 110.
 Wycliffe-on-the-Tees, 324.
 Yarrow Kirk, 474.
 Yattendon, 317.
 Yaxley Church, 368.
 Yeadon Church, Yorks, 428.
 Yecla, Spain, 46.
 York; Minster, 204, 320; Museum, 337.
 Yorkshire, early dials in, 53, 128.
 Young, Rev. Dr., 249.
 Yuste, Spain, 21, 174.
 Zarbula, dial maker, 226.
 Zennor Church, Cornwall, 429.
 "Zoccolo" dial, the, 22.



CHISWICK PRESS: CHARLES WHITTINGHAM AND CO.
TWO COURT, CHANCERY LANE, LONDON.

QB 215 .G2 C.1
The book of sun-dials /
Stanford University Libraries



3 6105 040 656 519

DATE DUE			
FEB 21	1990		
	MAR 20	1990	

STANFORD UNIVERSITY LIBRARIES
STANFORD, CALIFORNIA 94305-6004



